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=> fil reg
FILE 'REGISTRY' ENTERED AT 10:41:02 ON 16 NOV 2004
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STRUCTURE FILE UPDATES:   14 NOV 2004  HIGHEST RN 780728-63-4
DICTIONARY FILE UPDATES:  14 NOV 2004  HIGHEST RN 780728-63-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

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Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d sta que l2
L1              STR
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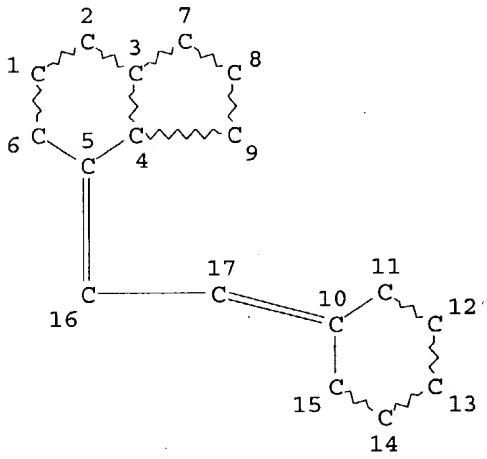

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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STEREO ATTRIBUTES: NONE
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100.0% PROCESSED  16595 ITERATIONS                    8939 ANSWERS
SEARCH TIME: 00.00.01


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L3              STR
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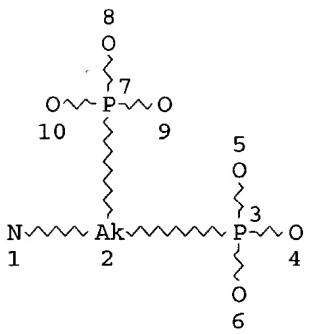

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STEREO ATTRIBUTES: NONE
L5 4726 SEA FILE=REGISTRY SSS FUL L3

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SEARCH TIME: 00.00.08

=> d his

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SET COST OFF

FILE 'REGISTRY' ENTERED AT 10:22:12 ON 16 NOV 2004
ACT NEON402/A

L1 STR
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L3 STR
L4 46 S L3
L5 4726 S L3 FUL
SAV L5 NEON402B/A

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L6 101 S L2 AND L5
L7 20 S L6 AND (PD<=19970213 OR PRD<=19970213 OR AD<=19970213)
L8 3 S L7 AND (MAZESS ? OR BISHOP ?)/AU
L9 3 S L7 AND (BONE(L)CARE?)/PA,CS
L10 3 S L8,L9
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 10:25:11 ON 16 NOV 2004
L11 64 S E1-E64
L12 4 S L11 NOT L2
L13 28 S L11 AND L5
L14 24 S L13 NOT L12
L15 36 S L11 NOT L12-L14
L16 0 S L15 AND (P AND N)/ELS

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                SEL RN L10

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L18           34 S L17 NOT L11
L19            3 S L18 AND (P AND N)/ELS
L20            2 S L19 NOT CO/ELS
L21            6 S L12,L20
                 SEL RN
L22          115 S E163-E168/CRN
L23            0 S L22 AND L2

     FILE 'HCAPLUS' ENTERED AT 10:29:25 ON 16 NOV 2004
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L25         7056 S RISEDRONIC ACID OR RISEDRONATE OR ME58019 OR NE()(58019 OR 58
L26          504 S ZOLEDRONATE OR ZOLEDRONIC ACID OR ZOMETA OR CGP42446 OR CGP()
L27         8028 S L24-L26
L28          111 S L27 AND L2
L29           22 S L28 AND (PD<=19970213 OR PRD<=19970213 OR AD<=19970213)
L30            3 S L10 AND L29
L31           23 S L7,L29 NOT L30
                 SEL DN AN 4 15-19
L32            6 S L31 AND E169-E186
L33           23 S L31,L32

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L36         1410 S L2
L37           60 S L35 AND L36
L38            9 S L37 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)
L39            7 S L38 NOT HYDROXYLASE/TI
L40            6 S L39 NOT P450/TI

     FILE 'REGISTRY' ENTERED AT 10:41:02 ON 16 NOV 2004

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FILE 'HCAPLUS' ENTERED AT 10:41:21 ON 16 NOV 2004
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FILE COVERS 1907 - 16 Nov 2004  VOL 141 ISS 21
FILE LAST UPDATED: 15 Nov 2004  (20041115/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d l30 all hitstr tot
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L30 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:532131 HCAPLUS
DN 139:101329
ED Entered STN: 11 Jul 2003
TI Targeted therapeutic delivery of vitamin D compounds
IN **Mazess, Richard B.; Bishop, Charles W.**
PA **Bone Care** International, Inc., USA
SO U.S. Pat. Appl. Publ., 28 pp., Cont.-in-part of U.S. Ser. No. 402,636.
CODEN: USXXCO
DT Patent
LA English
IC ICM A61K039-395
ICS A61K031-727; A61K031-66; A61K031-59
NCL 424178100; 514102000; 514167000; 514054000; 514056000
CC 32-7 (Steroids)
Section cross-reference(s): 29, 63
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	WO 9835704	A1	19980820	WO 1998-US2899	19980213 <--
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	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 2002136731	A1	20020926	US 2000-402636	20000426
PRAI	US 1997-38364P	P	19970213 <--		
	WO 1998-US2899	W	19980213		
	US 2000-402636	A2	20000426		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003129194	ICM	A61K039-395
	ICS	A61K031-727; A61K031-66; A61K031-59
	NCL	424178100; 514102000; 514167000; 514054000; 514056000
US 2003129194	ECLA	A61K047/48H4; A61K047/48T8M4 <--
WO 9835704	ECLA	A61K047/48H4; A61K047/48T8M4 <--

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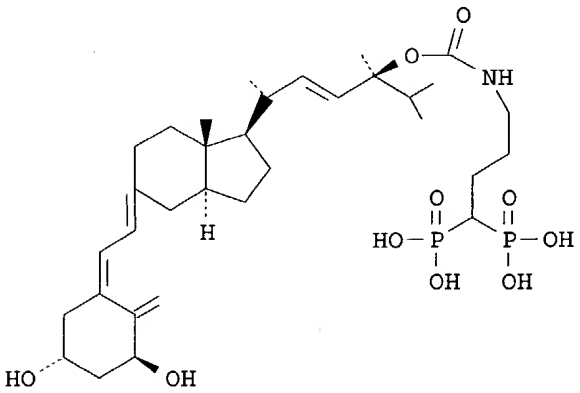


I

AB The present invention is directed to a conjugate which includes at least one vitamin D moiety and at least one targeting mol. moiety to pharmaceutical compns. of the conjugate, and to methods for using the

conjugate for target-specific delivery of vitamin D or analogs to tissues. When a particularly preferred form is administered to a patient, the targeting mol. component of the conjugate of this invention seeks out and binds to a tissue of interest, such as bone or tumor tissue, where the vitamin D has a therapeutic effect. One example compound prepared was I.

ST vitamin D phosphonate deriv prepn targeted delivery

IT Antitumor agents
Bone
Drug delivery systems
Human
(targeted therapeutic delivery of vitamin D compds.)

IT Vitamin D receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(targeted therapeutic delivery of vitamin D compds.)

IT Antibodies and Immunoglobulins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

IT 107-30-2, Chloromethyl methyl ether 70550-73-1 **211865-86-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(targeted therapeutic delivery of vitamin D compds.)

IT 81522-68-1P **140710-96-9P 144034-23-1P**
211865-87-1P 211865-88-2P 211865-89-3P
211865-90-6P 211865-92-8P 211865-93-9P
211865-94-0P 211865-96-2P 211865-97-3P
211865-98-4P 211865-99-5P 211866-01-2P
211866-02-3P 211866-03-4P 211866-04-5P
211866-06-7P **211866-07-8P 211866-08-9P**
211866-09-0P 211866-11-4P 211866-12-5P
211866-13-6P 211866-15-8P 211866-16-9P
211866-17-0P 211866-19-2P 557072-52-3P
557072-53-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(targeted therapeutic delivery of vitamin D compds.)

IT **211865-95-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

IT **211866-10-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(targeted therapeutic delivery of vitamin D compds.)

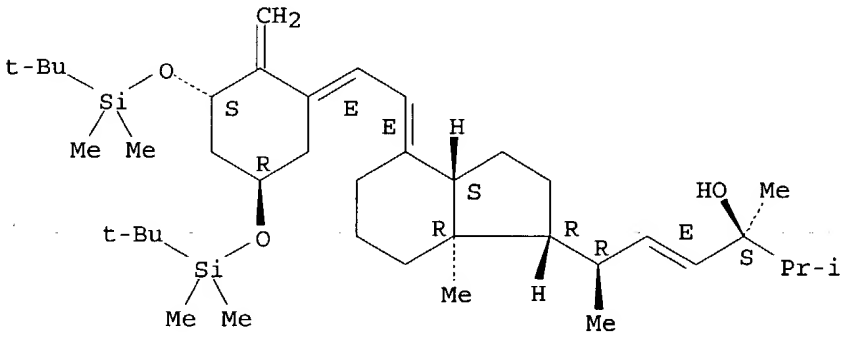
IT **211865-91-7P 211866-00-1P 211866-05-6P**
211866-14-7P 211866-18-1P 557072-54-5P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

IT 1406-16-2D, Vitamin d, conjugates 2809-21-4 10596-23-3
32222-06-3, 1α,25-Dihydroxyvitamin D3 **40391-99-9**
41294-56-8, 1α-Hydroxyvitamin D3 **54573-75-0**,
1α-Hydroxyvitamin D2 **60133-18-8**, 1α,25-
Dihydroxyvitamin D2 **66376-36-1**, **Alendronate**
83805-11-2, Falecalcitriol 89987-06-4, Tiludronate
103909-75-7, Maxacalcitol **105462-24-6**
112965-21-6, Calcipotriol **114084-78-5**,
Ibandronate 118072-93-8, **Zoledronate**
124043-51-2, 1α,24-Dihydroxyvitamin D2 **131249-38-2**
, 1α,25-Dihydroxyvitamin D4 **131918-61-1**, Paricalcitol
134404-52-7, Seocalcitol **157893-62-4**,
1α,24-Dihydroxyvitamin D4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

IT **211865-86-0**

RL: RCT (Reactant); RACT (Reactant or reagent)
(targeted therapeutic delivery of vitamin D compds.)
RN 211865-86-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-24-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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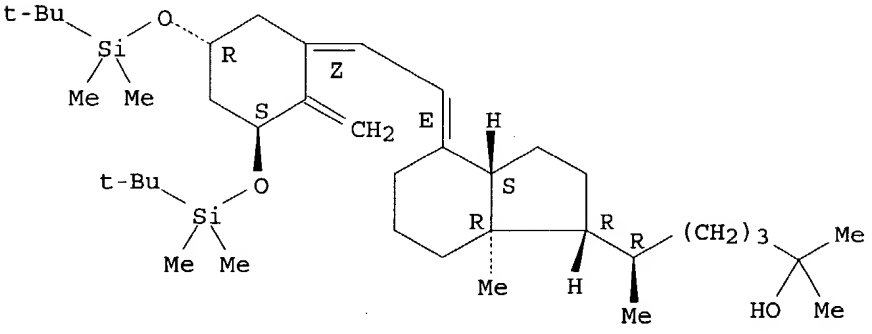
211866-12-5P 211866-13-6P 211866-15-8P
211866-16-9P 211866-17-0P 211866-19-2P
557072-52-3P 557072-53-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(targeted therapeutic delivery of vitamin D compds.)
RN 140710-96-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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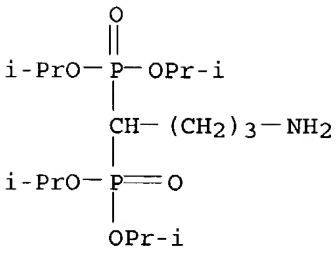
CN Phosphonic acid, (4-aminobutylidene)bis-, tetrakis(1-methylethyl) ester (9CI) (CA INDEX NAME)



RN 211865-87-1 HCAPLUS
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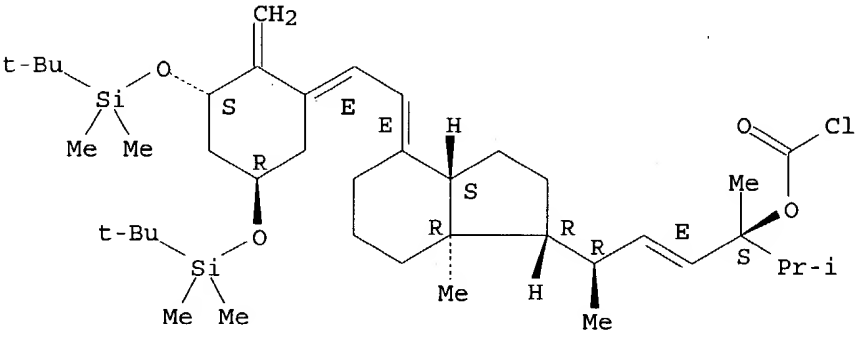
Absolute stereochemistry.
Double bond geometry as shown.



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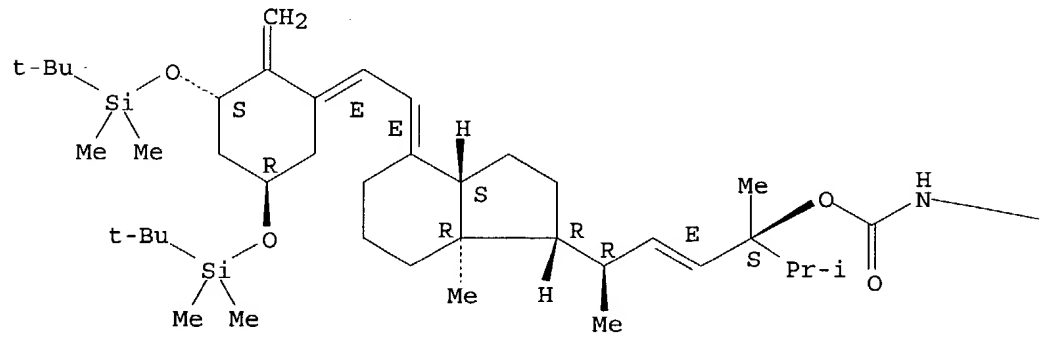
Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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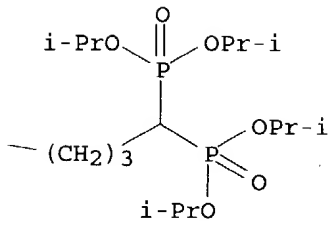

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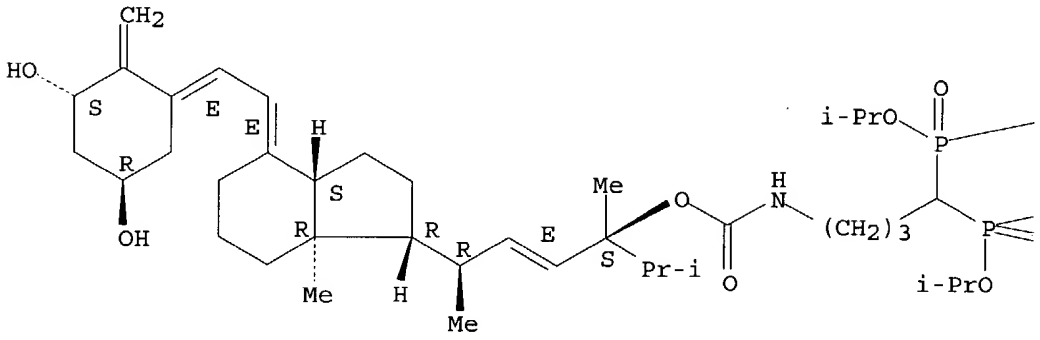
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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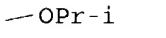
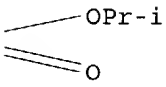
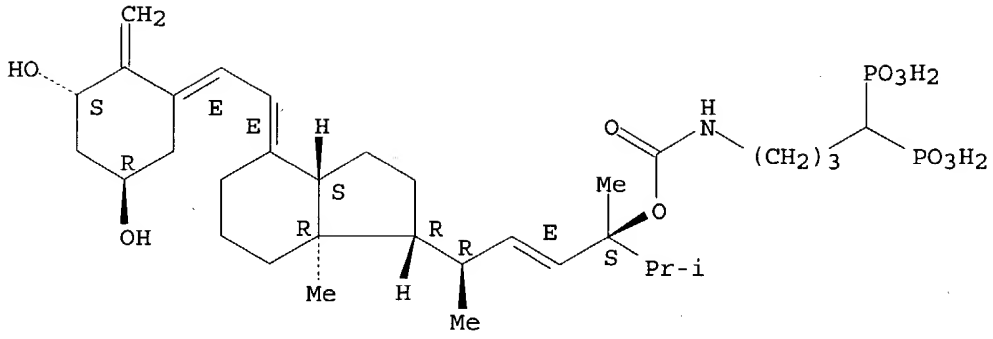




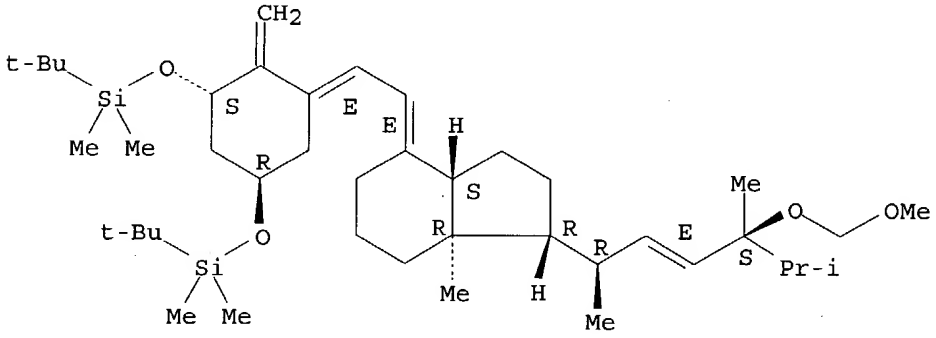
RN 211865-90-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211865-92-8 HCAPLUS
CN Silane, [[(1α,3β,5E,7E,22E)-24-(methoxymethoxy)-9,10-secoergosta-5,7,10(19),22-tetraene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211865-93-9 HCAPLUS
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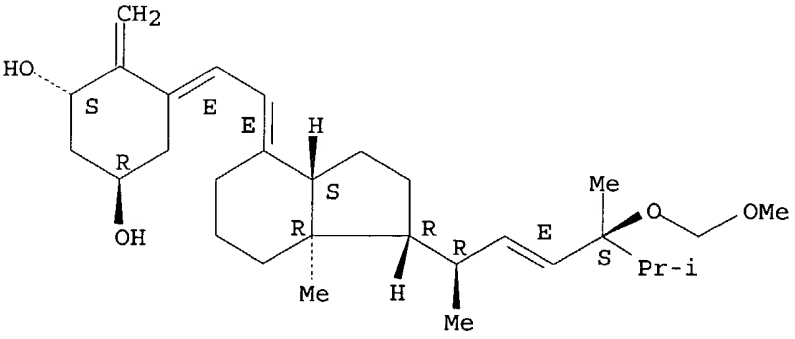
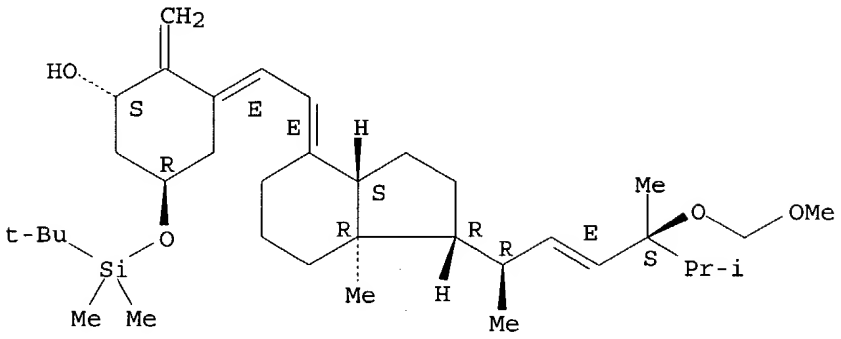
Absolute stereochemistry.
Double bond geometry as shown.



RN 211865-94-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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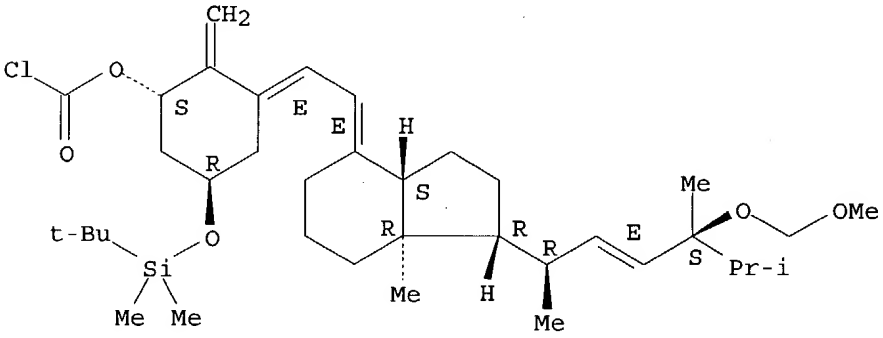
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, carbonochloridate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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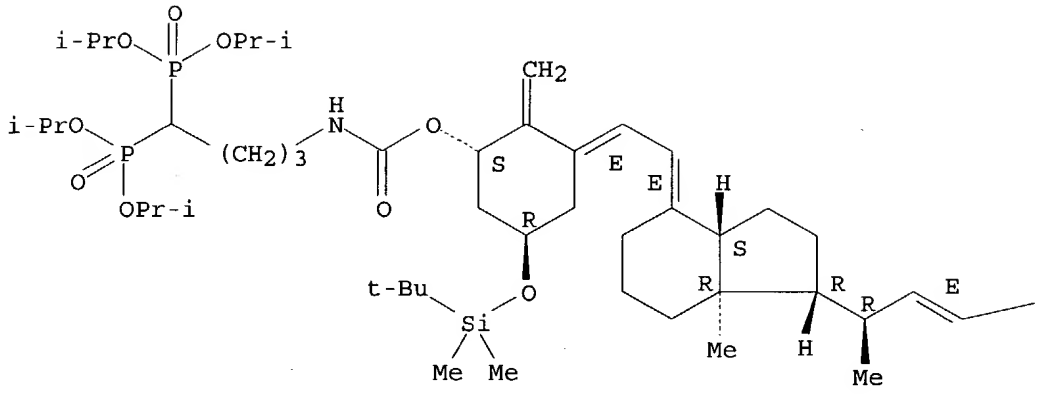
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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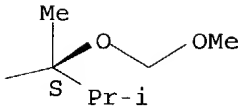

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CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, 1-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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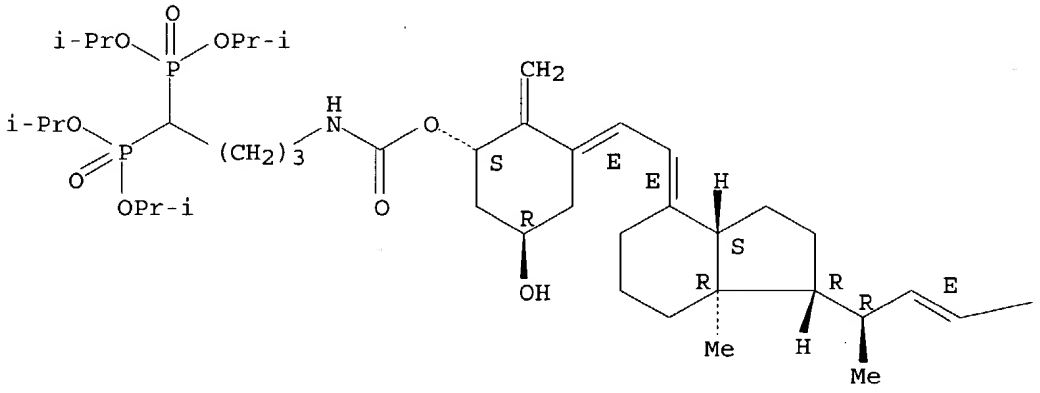

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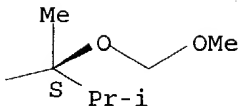

RN 211865-99-5 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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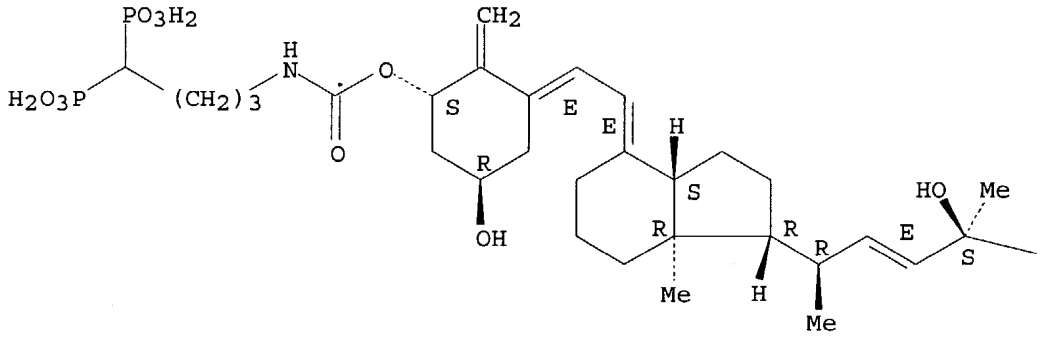

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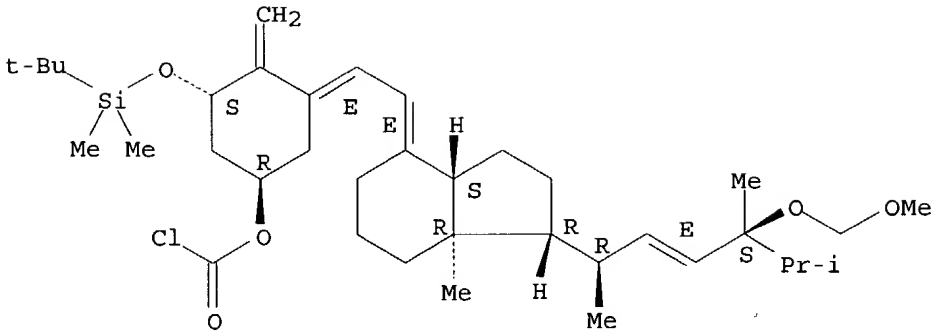
RN 211866-01-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, carbonochloridate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-02-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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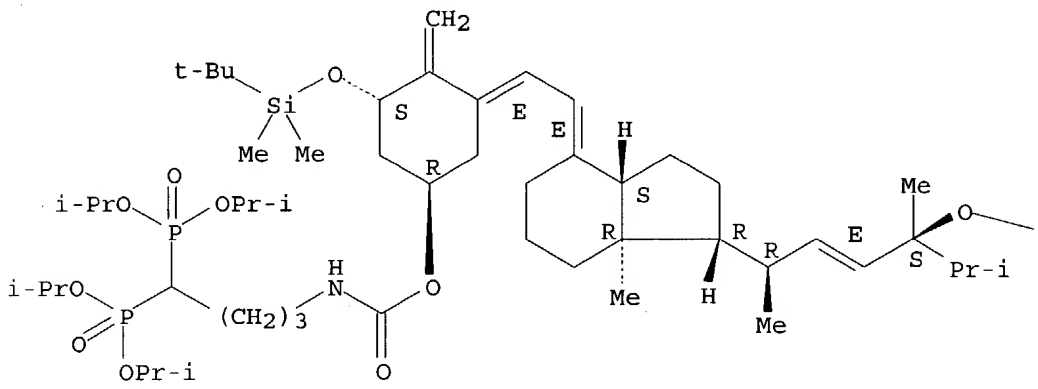

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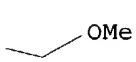

RN 211866-03-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, 3-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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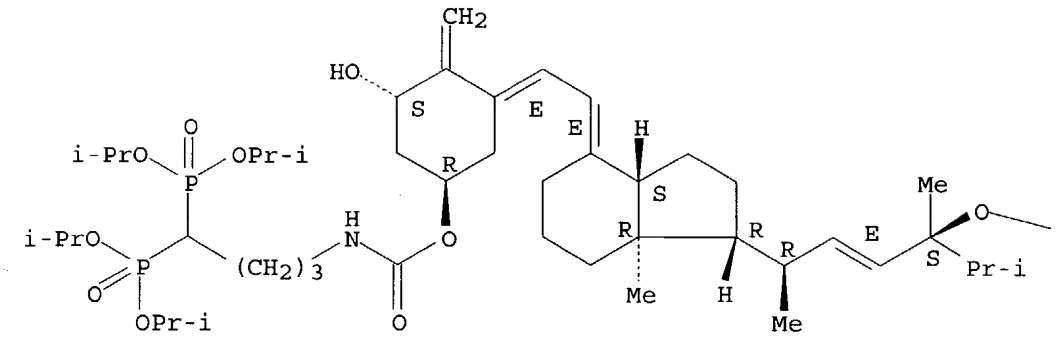

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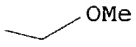
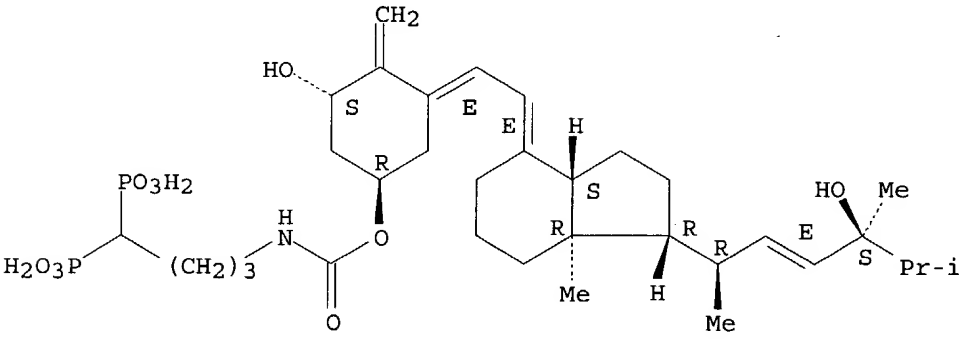


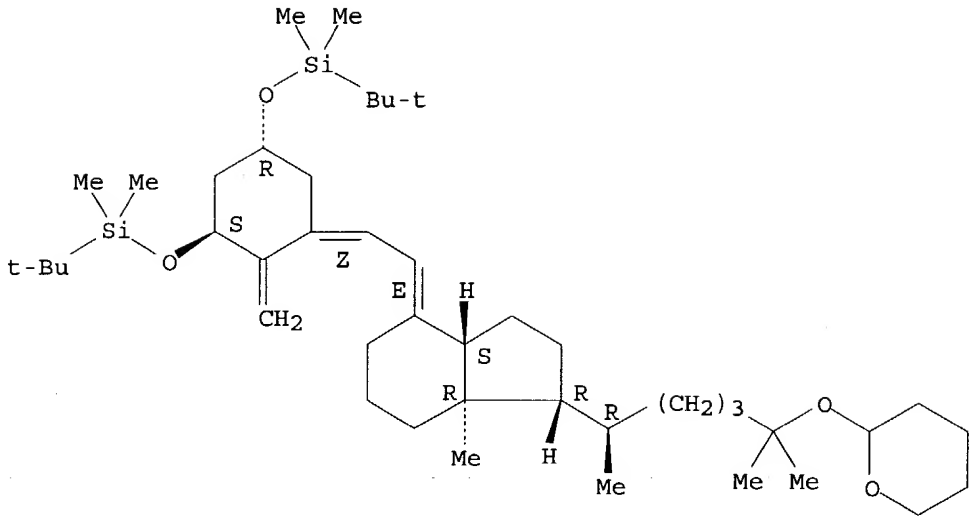
RN 211866-04-5 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



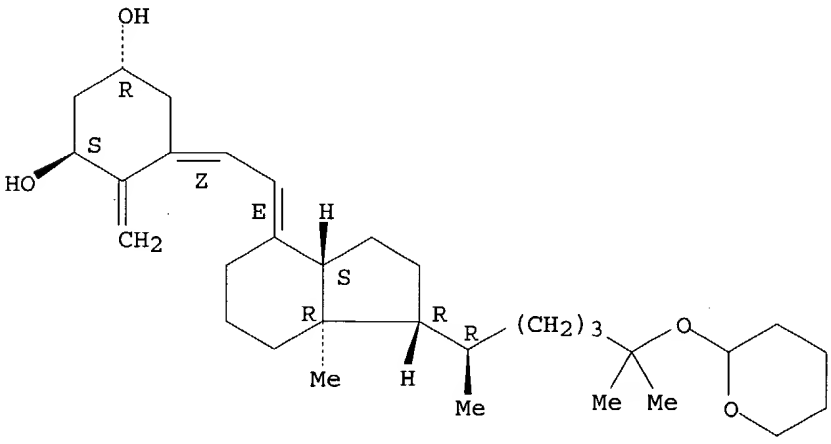
RN 211866-07-8 HCAPLUS
CN Silane, [[(1α,3β,5Z,7E)-25-[(tetrahydro-2H-pyran-2-yl)oxy]-9,10-secocholesta-5,7,10(19)-triene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



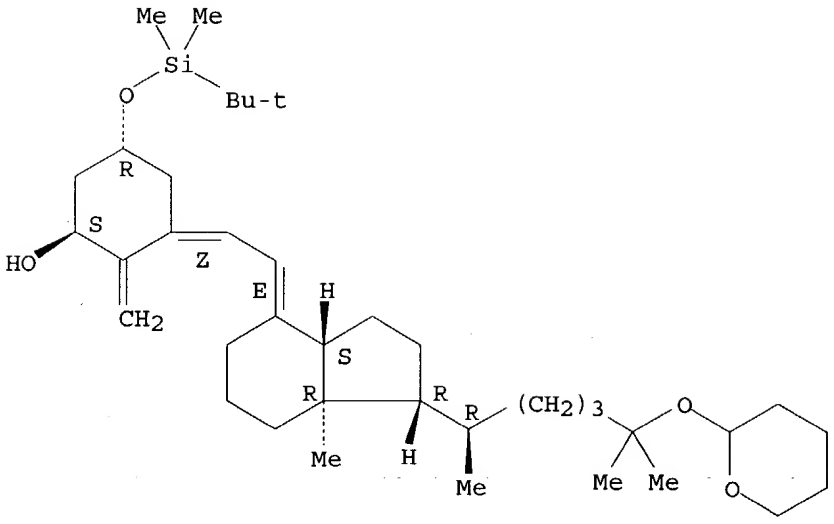
RN 211866-08-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



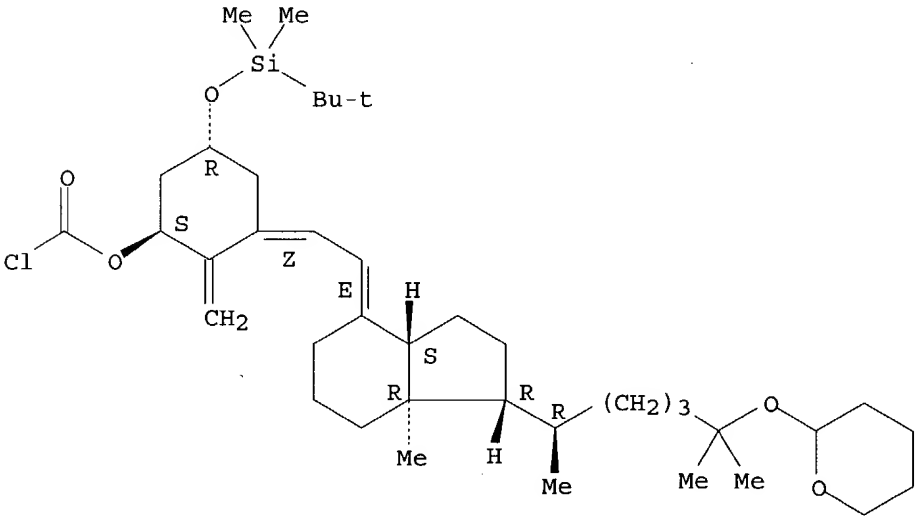
RN 211866-09-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-11-4 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, carbonochloridate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-12-5 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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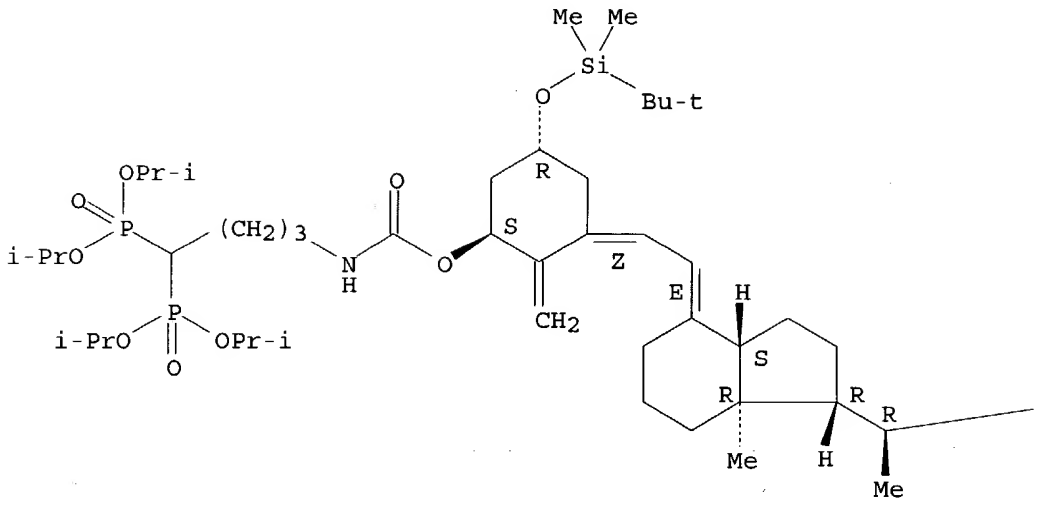

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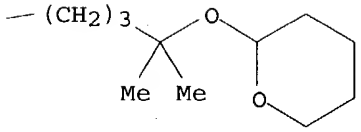

RN 211866-13-6 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, 1-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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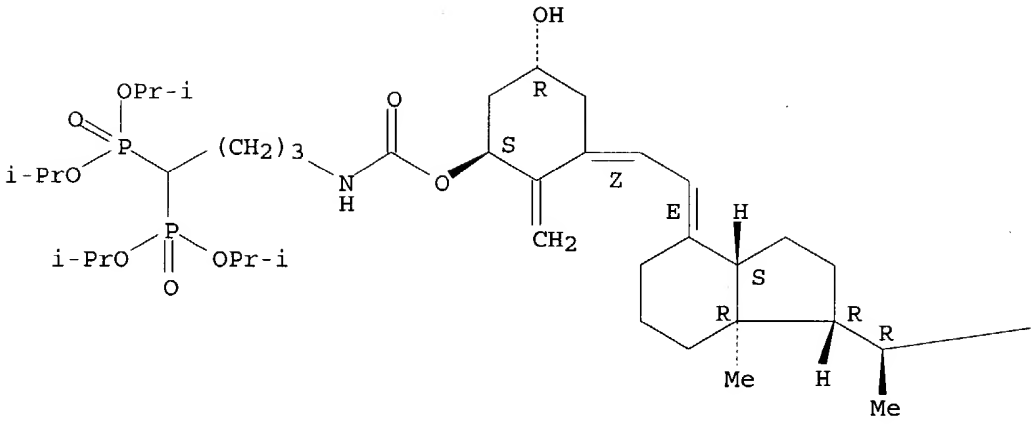

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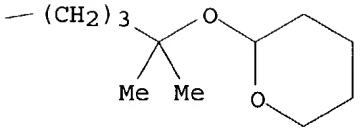
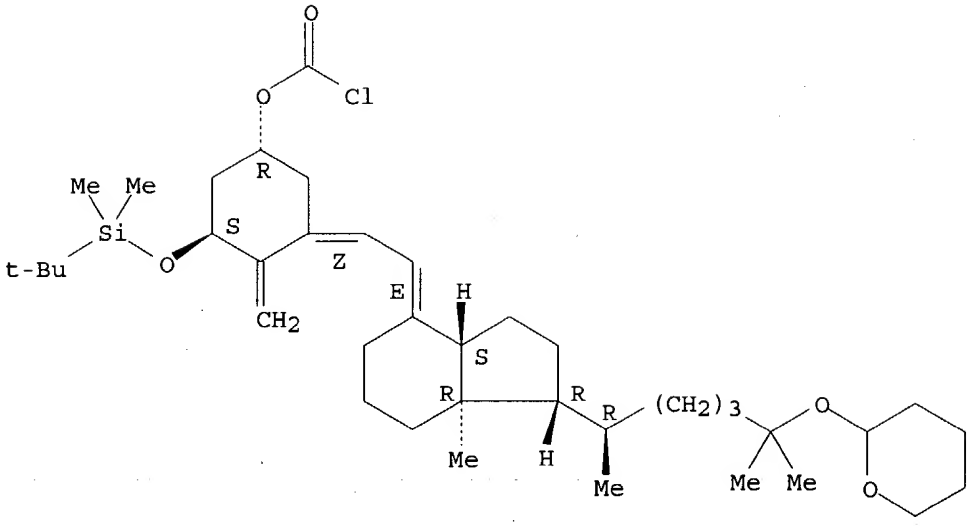


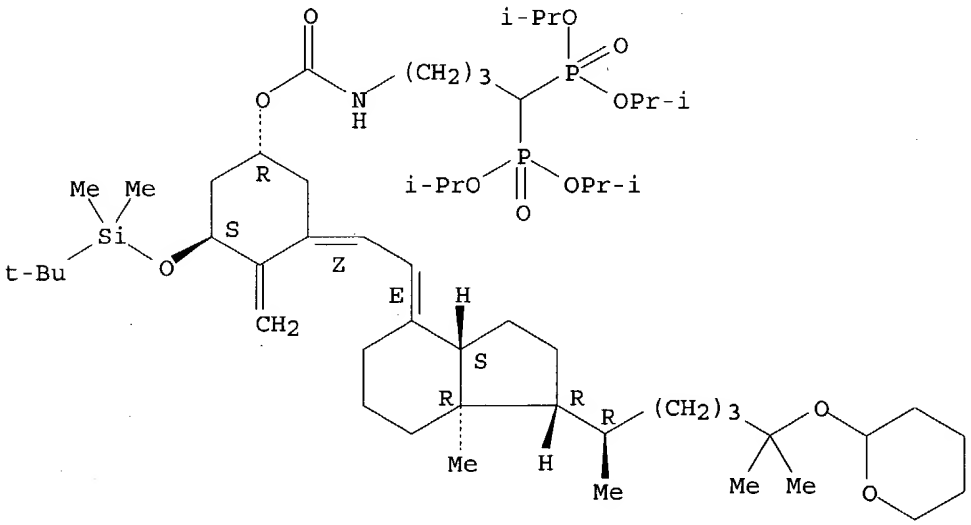
RN 211866-15-8 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, carbonochloridate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



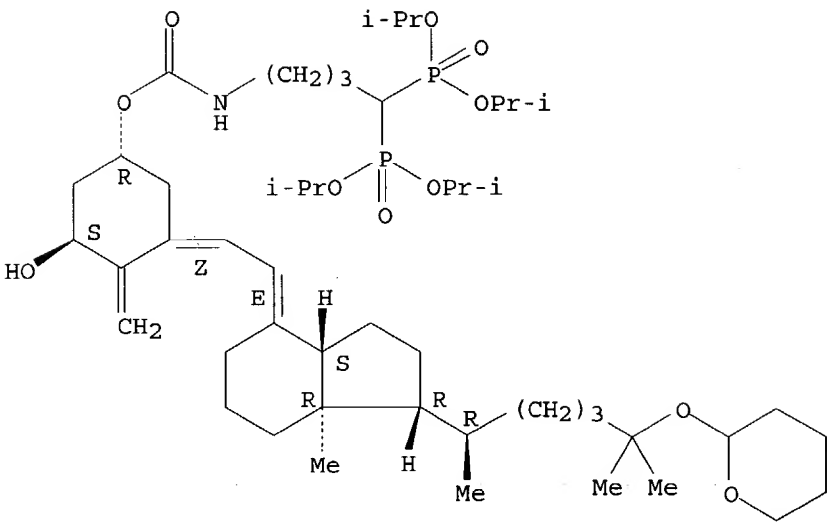
RN 211866-16-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



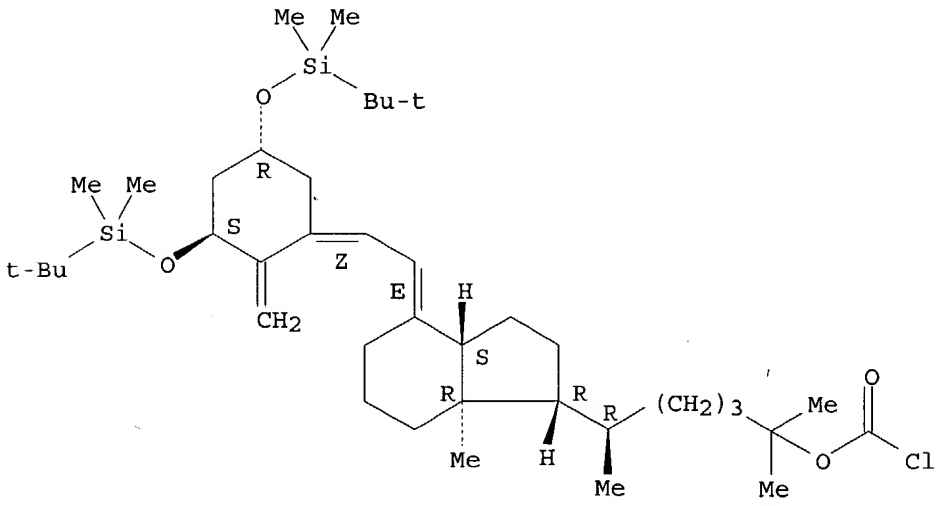
RN 211866-17-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, 3-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-19-2 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, carbonochloridate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 557072-52-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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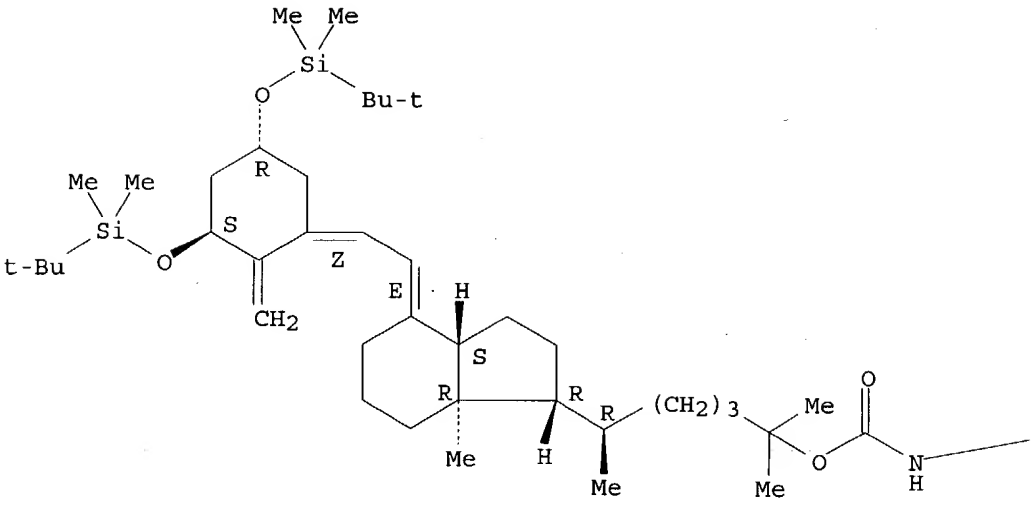

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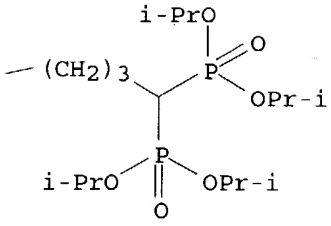

RN 557072-53-4 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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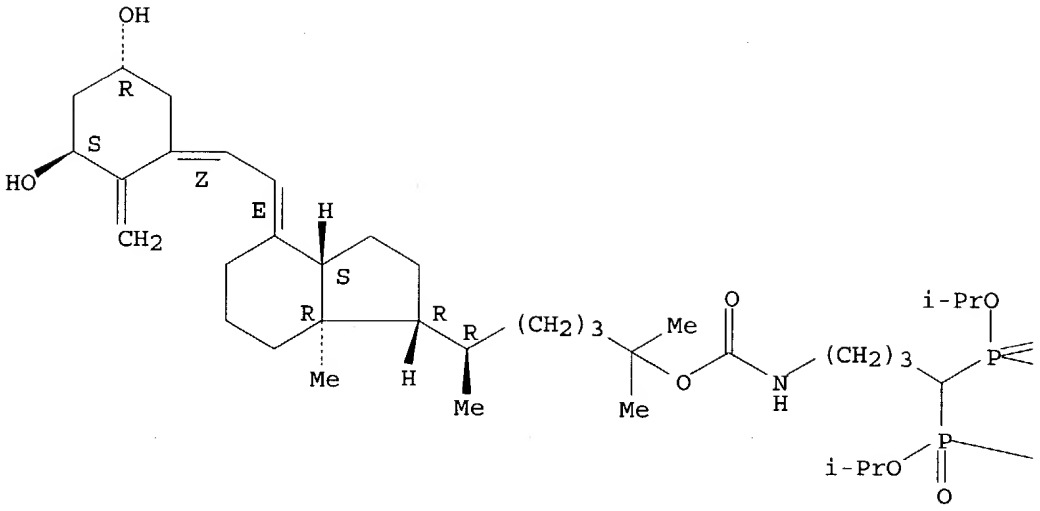

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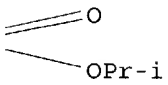
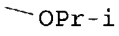
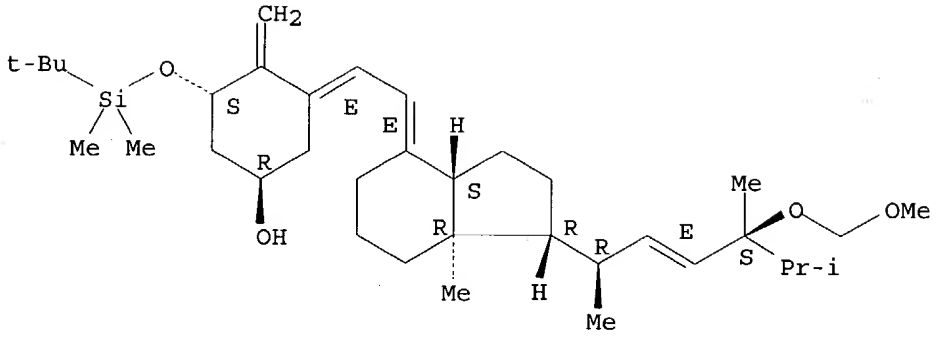




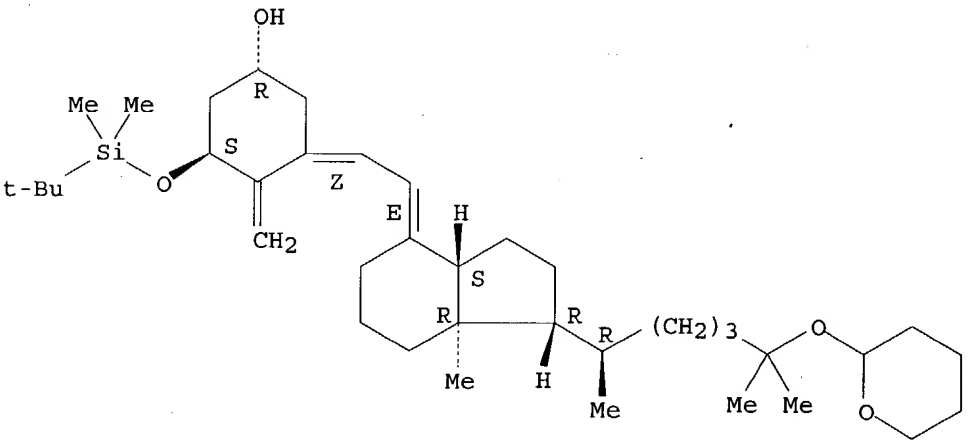
IT **211865-95-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)
RN 211865-95-1 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



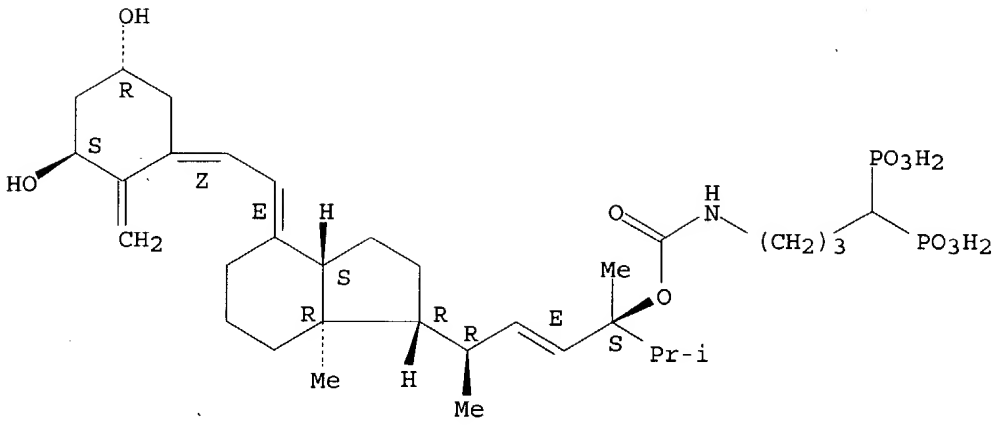
IT **211866-10-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(targeted therapeutic delivery of vitamin D compds.)
RN 211866-10-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **211865-91-7P 211866-00-1P 211866-05-6P**
211866-14-7P 211866-18-1P 557072-54-5P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)
RN 211865-91-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-00-1 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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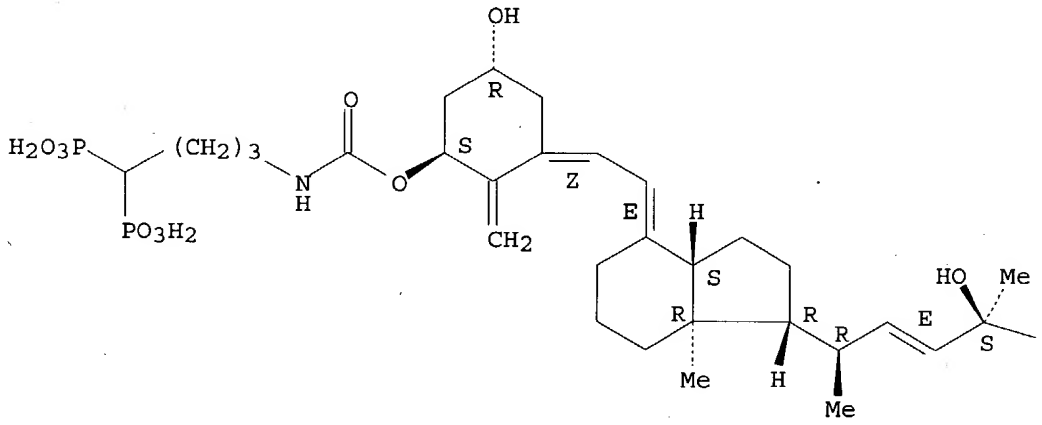

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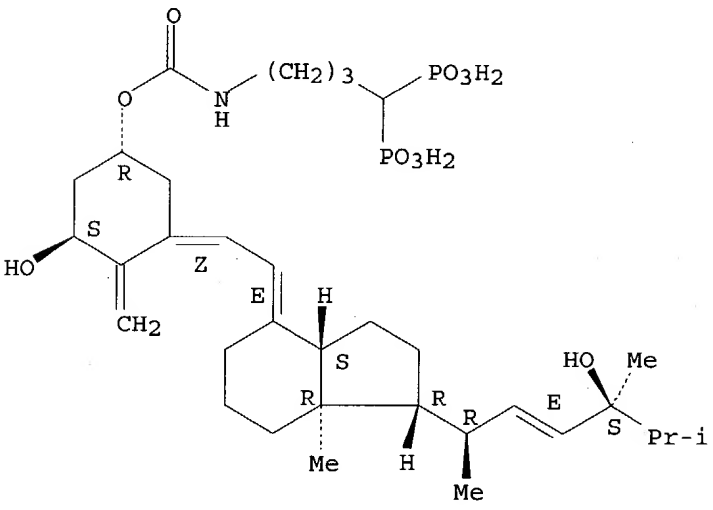
RN 211866-05-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-14-7 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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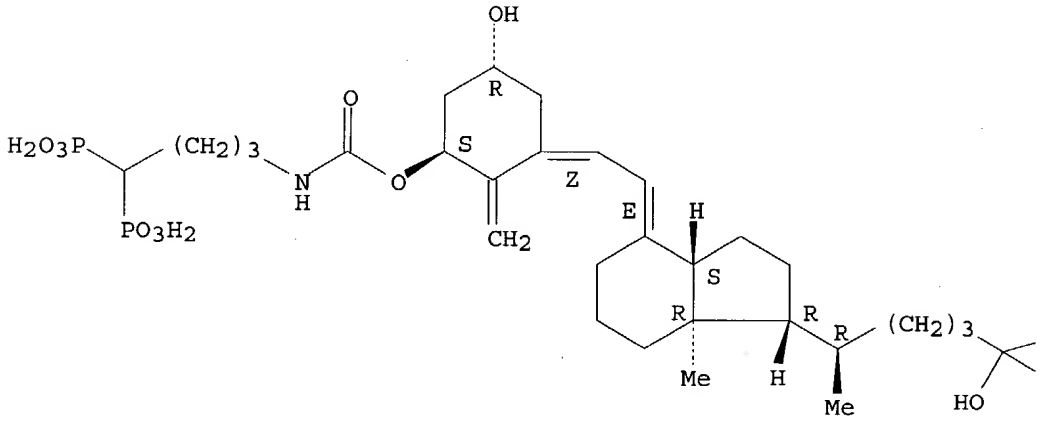

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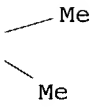
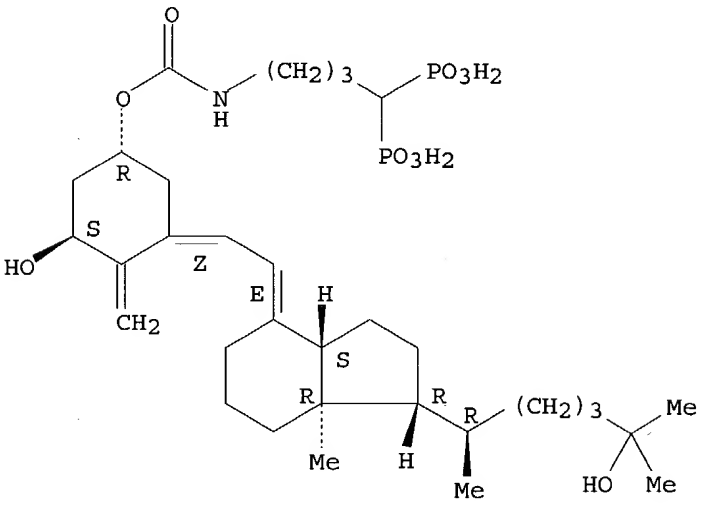


RN 211866-18-1 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 557072-54-5 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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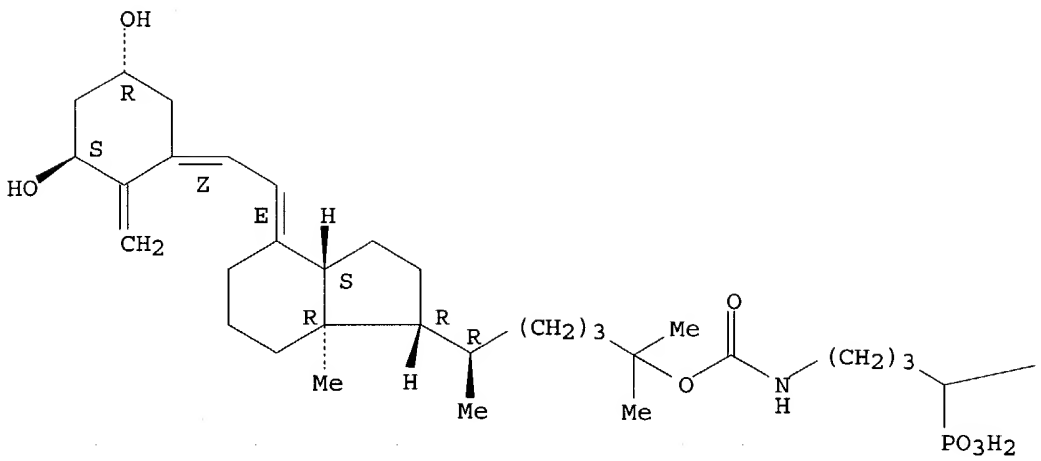

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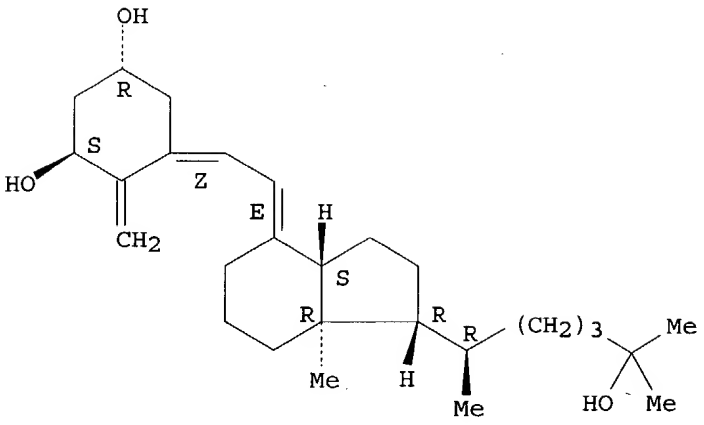
—PO_3H_2

IT **32222-06-3**, 1α,25-Dihydroxyvitamin D3 **40391-99-9** **41294-56-8**, 1α-Hydroxyvitamin D3 **54573-75-0**, 1α-Hydroxyvitamin D2 **60133-18-8**, 1α,25-Dihydroxyvitamin D2 **66376-36-1**, **Alendronate** **83805-11-2**, Falecalcitriol **103909-75-7**, Maxacalcitol **105462-24-6** **112965-21-6**, Calcipotriol **114084-78-5**, **Ibandronate** **118072-93-8**, **Zoledronate** **124043-51-2**, 1α,24-Dihydroxyvitamin D2 **131249-38-2**, 1α,25-Dihydroxyvitamin D4 **131918-61-1**, Paricalcitol **134404-52-7**, Seocalcitol **157893-62-4**, 1α,24-Dihydroxyvitamin D4
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(targeted therapeutic delivery of vitamin D compds.)

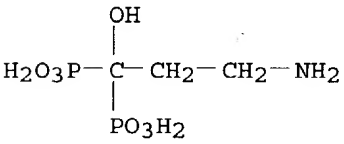
RN 32222-06-3 HCAPLUS

CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

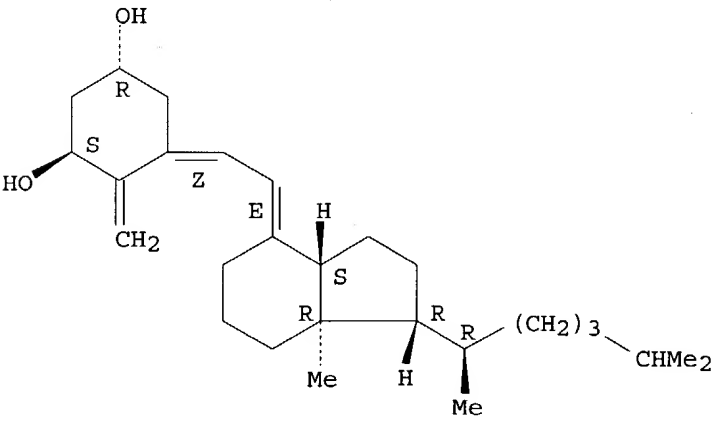


RN 40391-99-9 HCAPLUS
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)



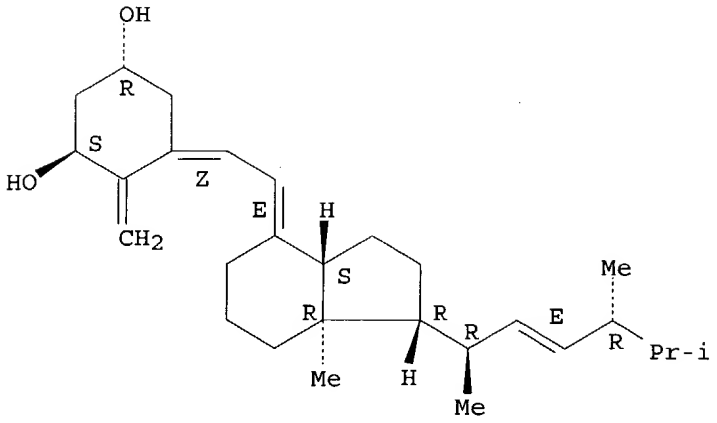
RN 41294-56-8 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



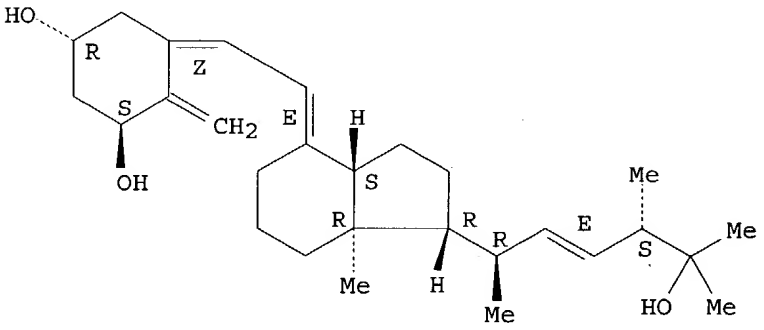
RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol,
(1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

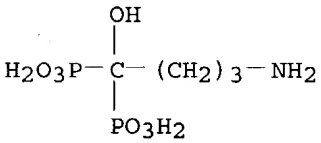


RN 60133-18-8 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,25-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

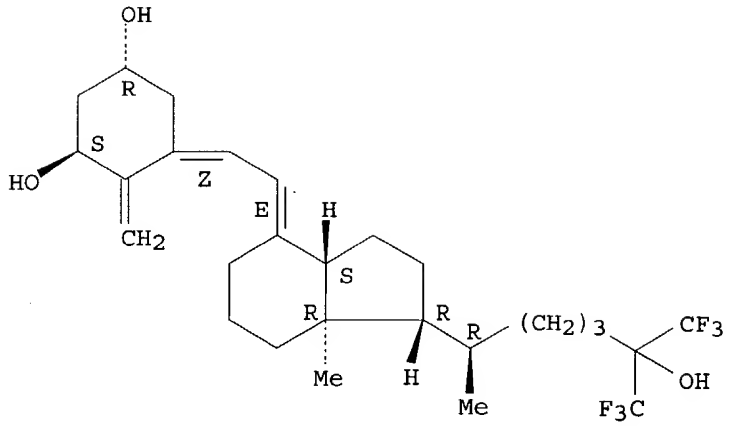


RN 66376-36-1 HCAPLUS
CN Phosphonic acid, (4-amino-1-hydroxybutylidene)bis- (9CI) (CA INDEX NAME)



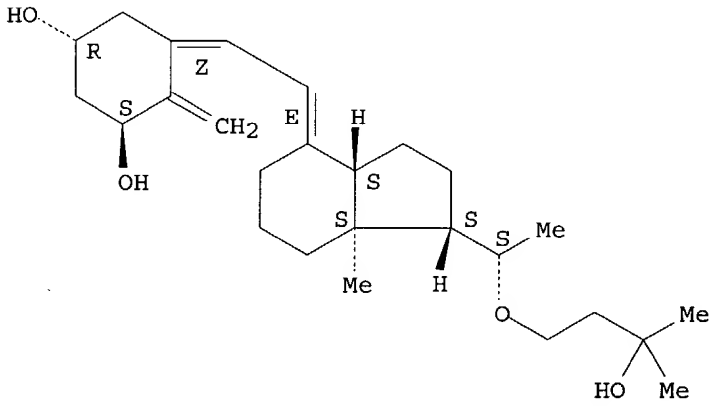
RN 83805-11-2 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 26,26,26,27,27,27-hexafluoro-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

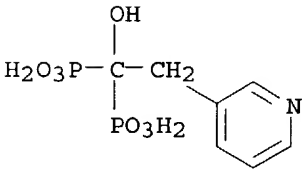


RN 103909-75-7 HCAPLUS
CN 1,3-Cyclohexanediol, 4-methylene-5-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3S,5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

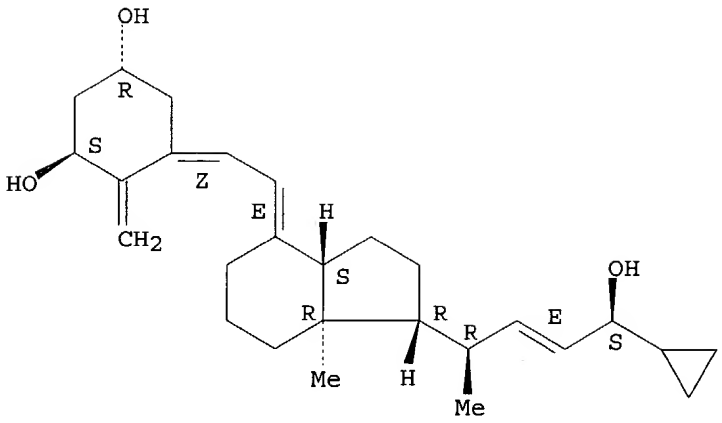


RN 105462-24-6 HCAPLUS
CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis- (9CI) (CA INDEX NAME)

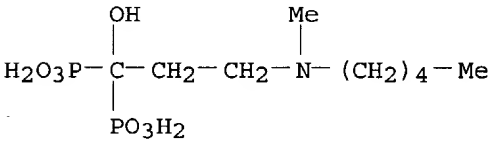


RN 112965-21-6 HCAPLUS
CN 9,10-Secochola-5,7,10(19),22-tetraene-1,3,24-triol, 24-cyclopropyl-, (1α,3β,5Z,7E,22E,24S)- (9CI) (CA INDEX NAME)

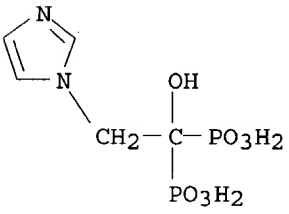
Absolute stereochemistry.
Double bond geometry as shown.



RN 114084-78-5 HCAPLUS
CN Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene]bis- (9CI) (CA INDEX NAME)

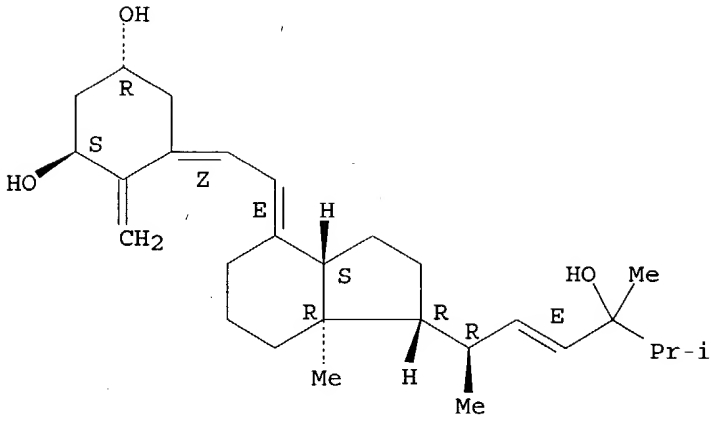


RN 118072-93-8 HCAPLUS
CN Phosphonic acid, [1-hydroxy-2-(1H-imidazol-1-yl)ethylidene]bis- (9CI) (CA INDEX NAME)



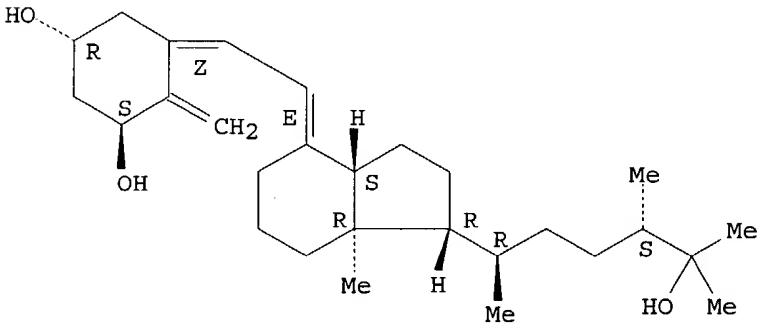
RN 124043-51-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



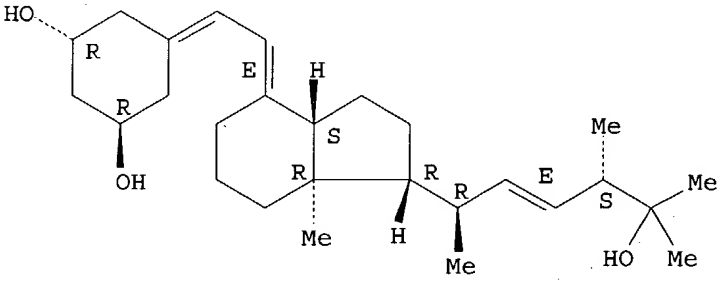
RN 131249-38-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



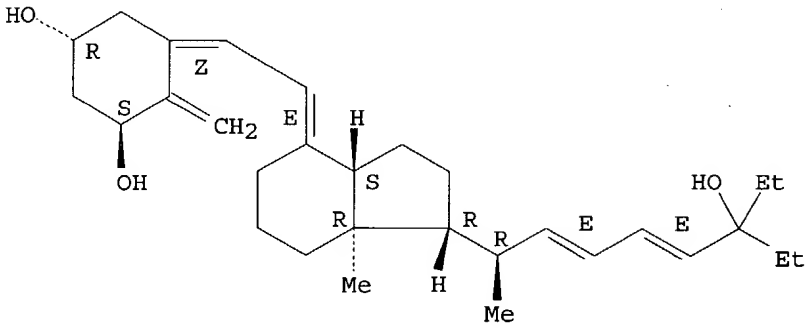
RN 131918-61-1 HCAPLUS
CN 19-Nor-9,10-secoergosta-5,7,22-triene-1,3,25-triol,
(1α,3β,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



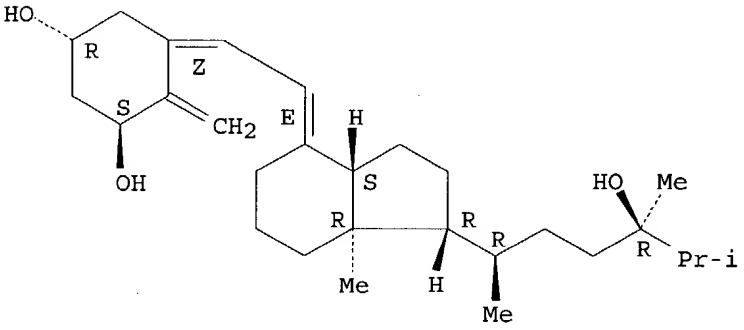
RN 134404-52-7 HCAPLUS
CN 1,3-Cyclohexanediol, 5-[(2E)-[(1R,3aS,7aR)-1-[(1R,2E,4E)-6-ethyl-6-hydroxy-
1-methyl-2,4-octadienyl]octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-
4-methylene-, (1R,3S,5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 157893-62-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L30 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:696655 HCAPLUS
DN 137:210938
ED Entered STN: 13 Sep 2002
TI Treatment of hyperproliferative diseases using active vitamin D analogues
IN **Mazess, Richard B.**
PA **Bone Care** International, Inc., USA
SO U.S. Pat. Appl. Publ., 15 pp., Cont.-in-part of U. S. Ser. No. 891,814.
CODEN: USXXCO
DT Patent
LA English
IC ICM A61K031-59
NCL 514167000
CC 1-6 (Pharmacology)
FAN.CNT 20

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002128240	A1	20020912	US 2001-995911	20011128 <--
	US 5763429	A	19980609	US 1996-781910	19961230 <--
	US 6537982	B1	20030325	US 1998-596149	19980223 <--
	US 2002025950	A1	20020228	US 2001-891814	20010626 <--
	US 6503893	B2	20030107		
	WO 2003045333	A2	20030605	WO 2002-US38263	20021126
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EP 1448150 A2 20040825 EP 2002-784667 20021126
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

PRAI US 1996-781910 A3 19961230 <--
US 1998-596149 A2 19980223
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US 1993-119895 A2 19930910 <--
US 1994-265438 A2 19940624 <--
US 1995-415488 A2 19950403 <--
US 1995-486387 A2 19950607 <--
US 2001-995911 A 20011128
WO 2002-US38263 W 20021126

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002128240	ICM	A61K031-59
	NCL	514167000
US 5763429	ECLA	A61K031/59; A61K031/59; A61K031/59H; A61K031/59P; A61K031/66; A61K031/70Z5; A61K033/00; A61K033/16; A61K033/22; A61K038/23 <--

OS MARPAT 137:210938

AB The present invention provides a method of inhibiting the hyperproliferative cellular activity of neoplasms and other hyperproliferative diseases with an active vitamin D compound utilizing a high dose, episodic treatment protocol. Patients with advanced androgen-independent prostate cancer were treated i.v. with 1α,24-dihydroxyvitamin D2.

ST hyperproliferative disease treatment vitamin D analog; prostate cancer treatment dihydroxyvitamin D2 intravenous

IT Prostate gland, neoplasm
(adenocarcinoma, metastasis; treatment of hyperproliferative diseases using active vitamin D analogs)

IT Prostate gland, neoplasm
(adenocarcinoma; treatment of hyperproliferative diseases using active vitamin D analogs)

IT Bone, disease
(agent treating; treatment of hyperproliferative diseases using active vitamin D analogs)

IT Microtubule
(agents inhibiting; treatment of hyperproliferative diseases using active vitamin D analogs)

IT Bone
(agents; treatment of hyperproliferative diseases using active vitamin D analogs)

IT Antitumor agents
(antibiotic; treatment of hyperproliferative diseases using active vitamin D analogs)

IT Nutrients
(antinutrients; treatment of hyperproliferative diseases using active vitamin D analogs)

IT Antibiotics
(antitumor; treatment of hyperproliferative diseases using active vitamin D analogs)

IT Anthracyclines
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antitumor; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Vitamin D receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cells expressing; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Uterus, neoplasm
(cervix; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Intestine, neoplasm
(colon; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Uterus, neoplasm
(endometrium; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Cell proliferation
Disease, animal
(hyperproliferative; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Cell differentiation
(inducers; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Drug delivery systems
(injections, i.v.; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Leukemia
(lymphocytic; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Thyroid gland, neoplasm
(medullary carcinoma; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Leukemia
(myelogenous; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Neck, anatomical
(neoplasm; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Drug delivery systems
(oral; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Bone, neoplasm
(osteosarcoma; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Drug delivery systems
(parenterals; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Eye, neoplasm
(retinoblastoma; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Animal tissue, disease
(soft, neoplasm, sarcoma; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Carcinoma
(squamous cell; treatment of hyperproliferative diseases using active vitamin D analogs)
IT Alkylating agents, biological
Antitumor agents
Bladder, neoplasm
Cytotoxic agents
Drug delivery systems

Head, neoplasm
Human
Liver, neoplasm
Lung, neoplasm
Lymphoma
Mammary gland, neoplasm
Melanoma
Multiple myeloma
Neoplasm
Ovary, neoplasm
Pancreas, neoplasm
Prostate gland, neoplasm
Psoriasis
Sarcoma
Testis, neoplasm
(treatment of hyperproliferative diseases using active vitamin D analogs)

IT 13598-36-2D, Phosphonic acid, alkylidenebis- derivs., compds.
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Bisphosphonate, antihypercalcemic agents; treatment of hyperproliferative diseases using active vitamin D analogs)

IT 1406-16-2D, Vitamin D, analogs or compds.
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(active hypocalcemic; treatment of hyperproliferative diseases using active vitamin D analogs)

IT 33069-62-4, Paclitaxel **40391-99-9**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coadministration of active vitamin D and; treatment of hyperproliferative diseases using active vitamin D analogs)

IT 7440-70-2, Calcium, biological studies
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(hypercalcemia, reduced risk of; treatment of hyperproliferative diseases using active vitamin D analogs)

IT 80449-01-0, Topoisomerase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors; treatment of hyperproliferative diseases using active vitamin D analogs)

IT **19356-17-3**, 25-Hydroxyvitamin D3 **124043-51-2**,
1α,24-Dihydroxyvitamin D2 **131249-38-2**,
1α,25-Dihydroxyvitamin D4 **156316-85-7**,
1α,24(S)-Dihydroxyvitamin D2 **156316-86-8**
157893-62-4, 1α,24-Dihydroxy vitamin D4
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(treatment of hyperproliferative diseases using active vitamin D analogs)

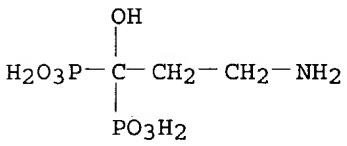
IT 7440-06-4D, Platinum, compds. **32222-06-3**, 1α,25-Dihydroxyvitamin D3 **54573-75-0**, 1α-Hydroxyvitamin D2 **58050-56-9**, 24-Hydroxyvitamin D2 **60133-18-8**,
1α,25-Dihydroxyvitamin D2 **143032-85-3**,
1α-Hydroxyvitamin D4 **186489-58-7 254448-88-9**,
24-Hydroxyvitamin D4 **457048-34-9**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(treatment of hyperproliferative diseases using active vitamin D analogs)

IT **40391-99-9**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(coadministration of active vitamin D and; treatment of hyperproliferative diseases using active vitamin D analogs)

RN 40391-99-9 HCAPLUS

CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)



IT **19356-17-3**, 25-Hydroxyvitamin D3 **124043-51-2**, 1α,24-Dihydroxyvitamin D2 **131249-38-2**, 1α,25-Dihydroxyvitamin D4 **156316-85-7**, 1α,24(S)-Dihydroxyvitamin D2 **156316-86-8** **157893-62-4**, 1α,24-Dihydroxy vitamin D4

RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

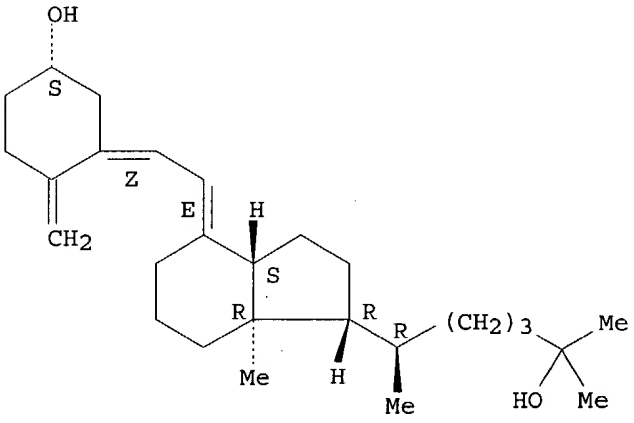
(treatment of hyperproliferative diseases using active vitamin D analogs)

RN 19356-17-3 HCAPLUS

CN 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

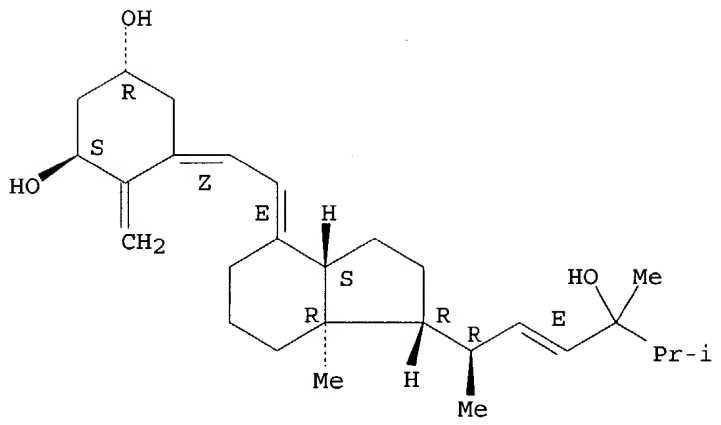


RN 124043-51-2 HCAPLUS

CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

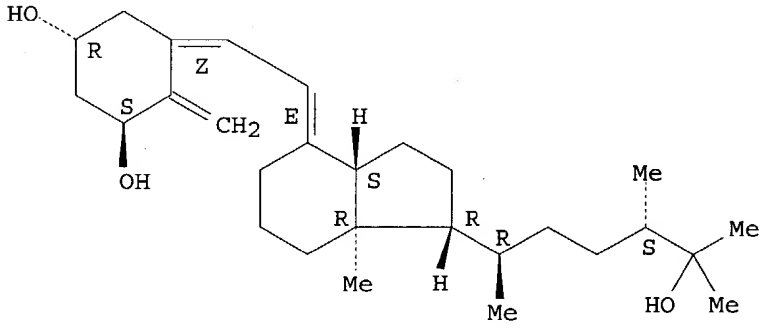
Absolute stereochemistry.

Double bond geometry as shown.



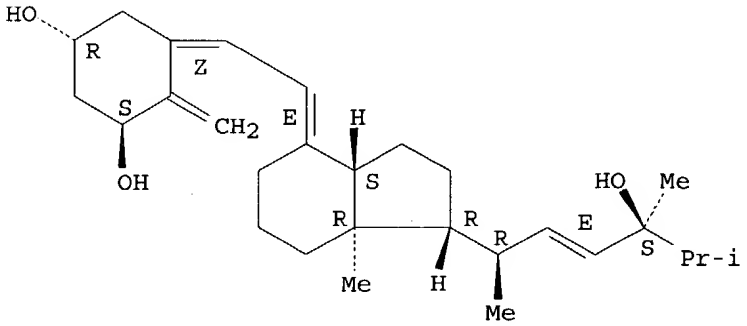
RN 131249-38-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



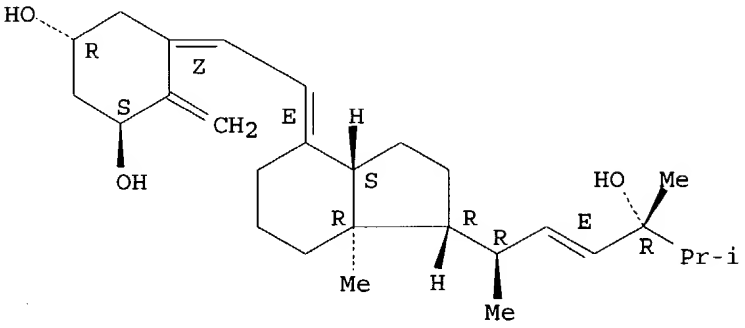
RN 156316-85-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol,
(1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



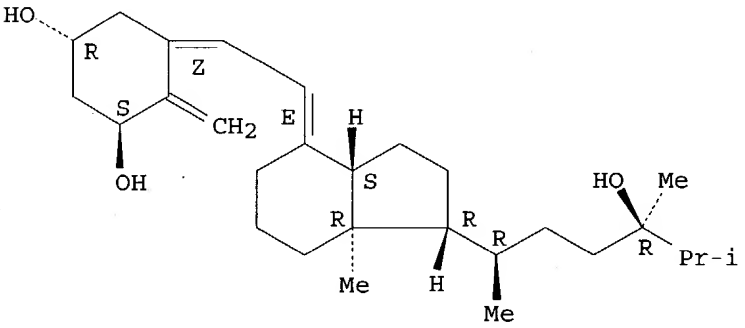
RN 156316-86-8 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol,
(1α,3β,5Z,7E,22E,24R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



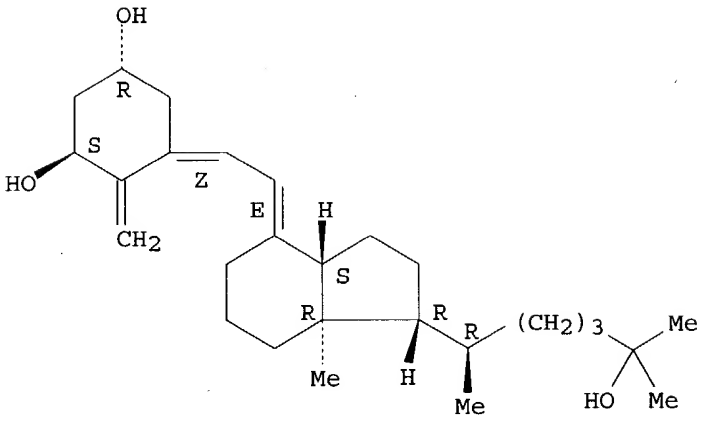
RN 157893-62-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



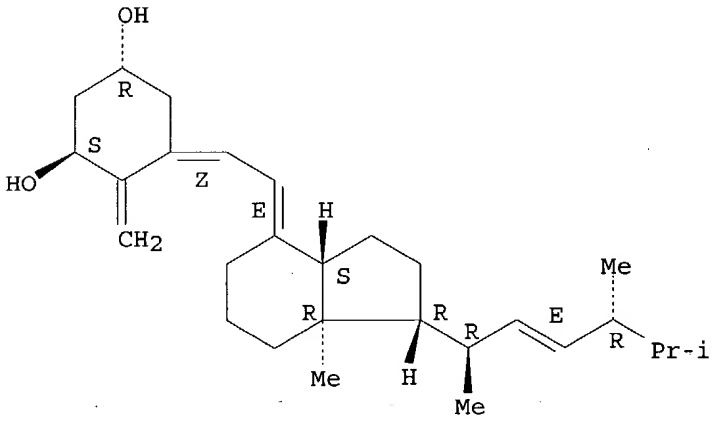
IT **32222-06-3**, 1α,25-Dihydroxyvitamin D3 **54573-75-0**,
1α-Hydroxyvitamin D2 **58050-56-9**, 24-Hydroxyvitamin D2
60133-18-8, 1α,25-Dihydroxyvitamin D2 **143032-85-3**,
1α-Hydroxyvitamin D4 **186489-58-7 254448-88-9**,
24-Hydroxyvitamin D4 **457048-34-9**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(treatment of hyperproliferative diseases using active vitamin D
analogs)
RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



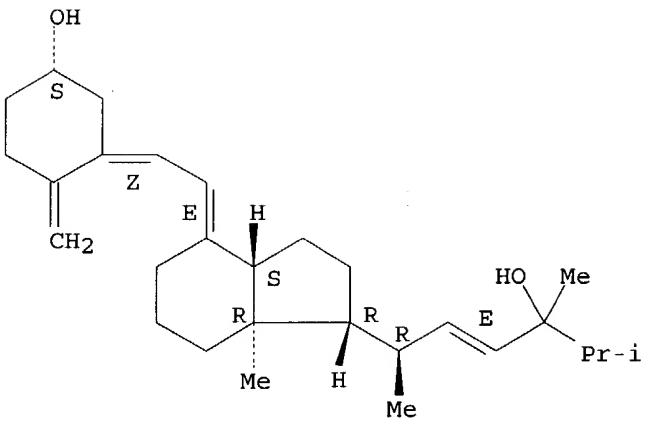
RN 54573-75-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



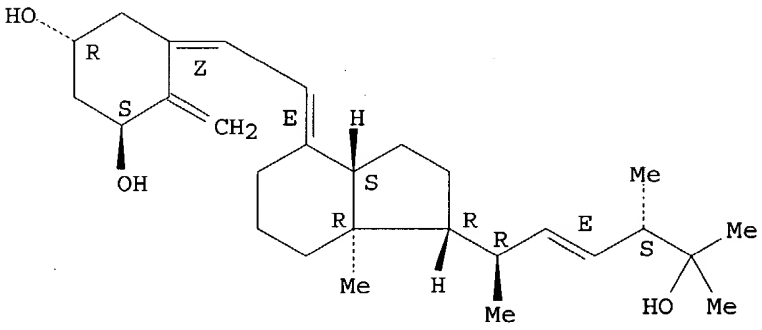
RN 58050-56-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-3,24-diol, (3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



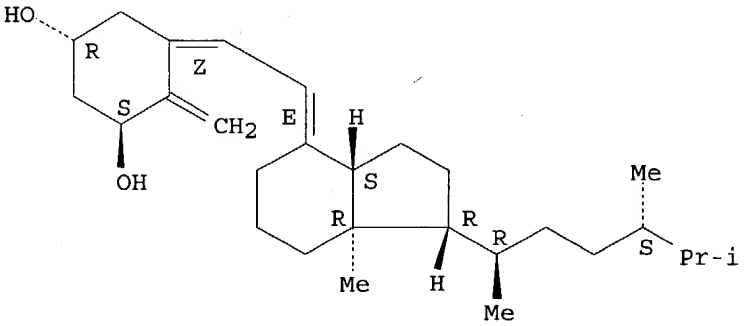
RN 60133-18-8 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,25-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



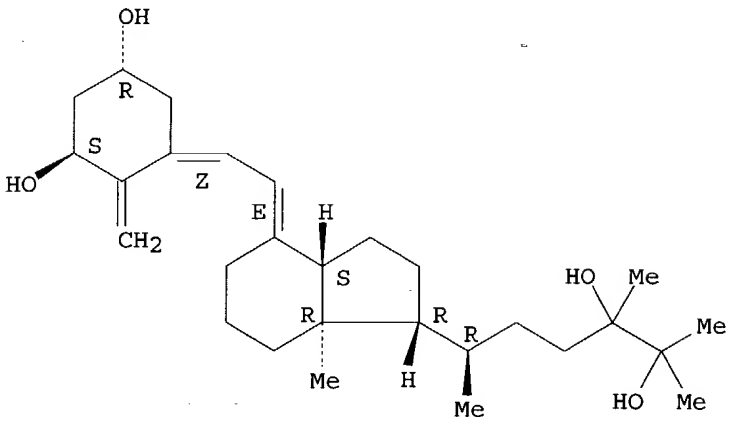
RN 143032-85-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



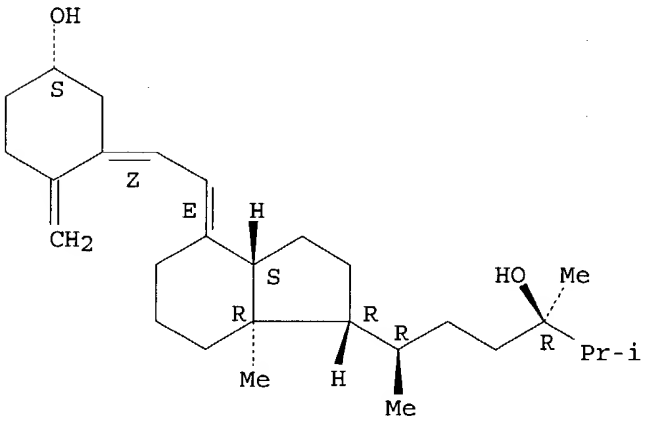
RN 186489-58-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24,25-tetrol, (1α,3β,5Z,7E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



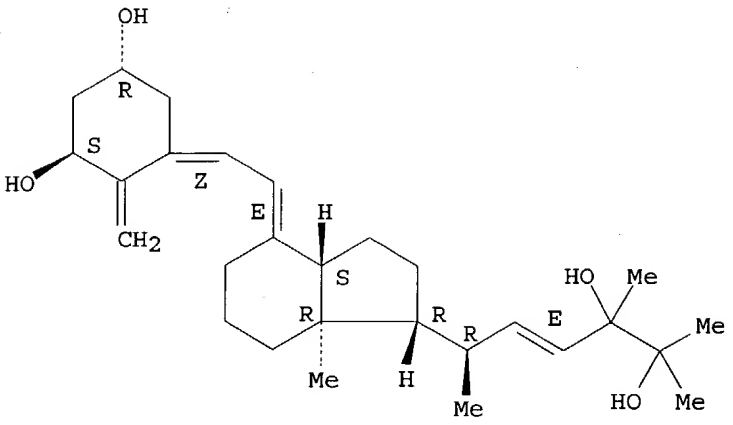
RN 254448-88-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19)-diene-3,24-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 457048-34-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24,25-tetrol, (1α,3β,5Z,7E,22E,25ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L30 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:568745 HCAPLUS
DN 129:193708
ED Entered STN: 07 Sep 1998
TI Targeted therapeutic delivery of vitamin D compounds
IN **Mazess, Richard B.**; **Bishop, Charles W.**
PA **Bone Care** International, Inc., USA
SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K047-48
ICS A61K031-59
CC 63-5 (Pharmaceuticals)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9835704	A1	19980820	WO 1998-US2899	19980213 <--
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2279590	AA	19980820	CA 1998-2279590	19980213 <--
	AU 9863267	A1	19980908	AU 1998-63267	19980213 <--
	AU 750451	B2	20020718		
	EP 981376	A1	20000301	EP 1998-907468	19980213 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	NZ 336924	A	20010629	NZ 1998-336924	19980213 <--
	JP 2001511811	T2	20010814	JP 1998-535974	19980213 <--
	BR 9815442	A	20010821	BR 1998-15442	19980213 <--
	US 2002136731	A1	20020926	US 2000-402636	20000426
	US 2003129194	A1	20030710	US 2002-251905	20020920 <--
PRAI	US 1997-38364P	P	19970213	<--	
	WO 1998-US2899	W	19980213		
	US 2000-402636	A2	20000426		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9835704	ICM	A61K047-48
	ICS	A61K031-59

WO 9835704 ECLA A61K047/48H4; A61K047/48T8M4 <--
US 2003129194 ECLA A61K047/48H4; A61K047/48T8M4 <--

AB The present invention is directed to a conjugate which includes at least one vitamin D moiety thereof and at least one targeting mol. moiety to pharmaceutical compns. of the conjugate, and to methods for using the conjugate for target-specific delivery of vitamin D or analogs thereof to tissues in need thereof. When a particularly preferred form is administered to a patient, the targeting mol. component of the conjugate of this invention seeks out and binds to a tissue of interest, such as bone or tumor tissue, where the vitamin D has a therapeutic effect. A conjugate of 1α,24-dihydroxyvitamin D2 and aminoalkyl 1,1-bisphosphonate linked at C-24 of the vitamin D moiety was prepared

ST drug targeting vitamin D2 bisphosphonate conjugate

IT Estrogens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antiestrogens; vitamin D2 conjugates for targeted delivery)

IT Estrogens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugated; vitamin D2 conjugates for targeted delivery)

IT Drug delivery systems
(enteric-coated; vitamin D2 conjugates for targeted delivery)

IT Drug delivery systems
(oral; vitamin D2 conjugates for targeted delivery)

IT Toxins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pertussis; vitamin D2 conjugates for targeted delivery)

IT Bone, disease
(treatment of; vitamin D2 conjugates for targeted delivery)

IT Antitumor agents
Cytotoxic agents
Drug targeting
(vitamin D2 conjugates for targeted delivery)

IT Bone morphogenetic proteins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D2 conjugates for targeted delivery)

IT Transforming growth factors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β-; vitamin D2 conjugates for targeted delivery)

IT 75-44-5, Phosgene 107-30-2, Chloromethyl methyl ether 18162-48-6, tert-Butyldimethylsilyl chloride 70550-73-1 81522-68-1
144034-23-1 211865-86-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of vitamin D2 analog-bisphosphonate conjugates for targeted delivery)

IT **140710-96-9P 211865-87-1P 211865-88-2P**
211865-89-3P 211865-90-6P 211865-92-8P
211865-93-9P 211865-94-0P 211865-95-1P
211865-96-2P 211865-97-3P 211865-98-4P
211865-99-5P 211866-01-2P 211866-02-3P
211866-03-4P 211866-04-5P 211866-06-7P
211866-07-8P 211866-08-9P 211866-09-0P
211866-10-3P 211866-11-4P 211866-12-5P
211866-13-6P 211866-15-8P 211866-16-9P
211866-17-0P 211866-19-2P 211866-20-5P
211866-21-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of vitamin D2 analog-bisphosphonate conjugates for targeted delivery)

IT **211865-91-7P 211866-00-1P 211866-05-6P**
211866-14-7P 211866-18-1P 211866-22-7P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of vitamin D2 analog-bisphosphonate conjugates for targeted delivery)

IT 51-21-8, 5-Fluorouracil 53-43-0, Dehydroepiandrosterone 59-05-2, Methotrexate 60-54-8, Tetracycline 127-07-1, Hydroxyurea 148-82-3, Melphalan 1404-00-8, Mitomycin 7440-42-8, Boron, biological studies 9007-12-9, Calcitonin 13408-78-1, Cobalamin 15663-27-1, Cisplatin 20830-81-3, Daunomycin 25316-40-9, Adriamycin 29069-24-7, Prednimustine 58957-92-9, Idarubicin 62899-40-5, Estromustine 114949-22-3, Activin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D2 conjugates for targeted delivery)

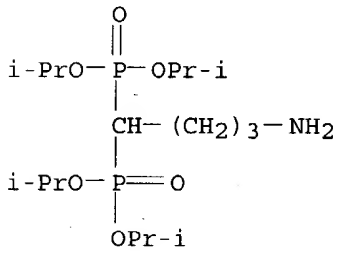
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bouillon, R; US 5232836 A 1993 HCAPLUS
(2) Isis Pharmaceuticals Inc; WO 9307883 A 1993 HCAPLUS
(3) Londowski, J; J PHARMACOL EXP THER 1986, V237(3), P837 HCAPLUS
(4) Peterson, A; US 5691328 A 1997 HCAPLUS

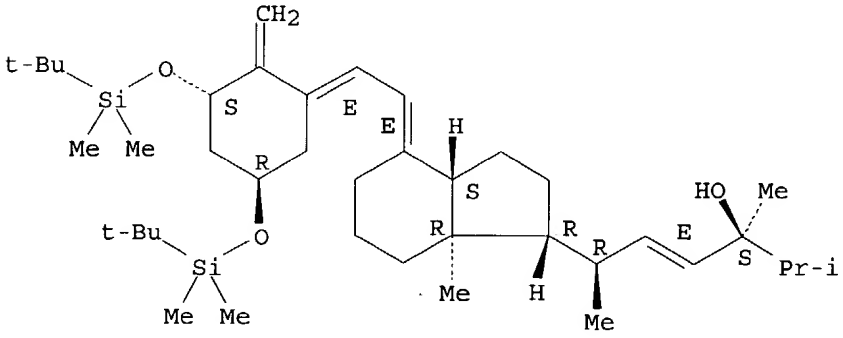
IT **144034-23-1 211865-86-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of vitamin D2 analog-bisphosphonate conjugates for targeted delivery)

RN 144034-23-1 HCAPLUS
CN Phosphonic acid, (4-aminobutylidene)bis-, tetrakis(1-methylethyl) ester. (9CI) (CA INDEX NAME)



RN 211865-86-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-24-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

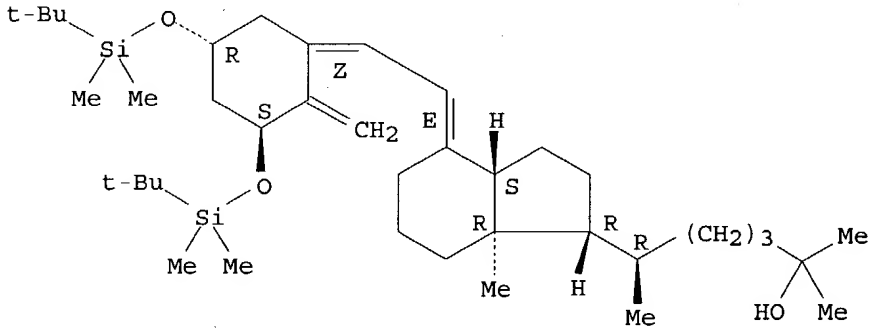


IT **140710-96-9P 211865-87-1P 211865-88-2P**
211865-89-3P 211865-90-6P 211865-92-8P
211865-93-9P 211865-94-0P 211865-95-1P
211865-96-2P 211865-97-3P 211865-98-4P

211865-99-5P 211866-01-2P 211866-02-3P
211866-03-4P 211866-04-5P 211866-07-8P
211866-08-9P 211866-09-0P 211866-10-3P
211866-11-4P 211866-12-5P 211866-13-6P
211866-15-8P 211866-16-9P 211866-17-0P
211866-19-2P 211866-20-5P 211866-21-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of vitamin D2 analog-bisphosphonate conjugates for targeted delivery)

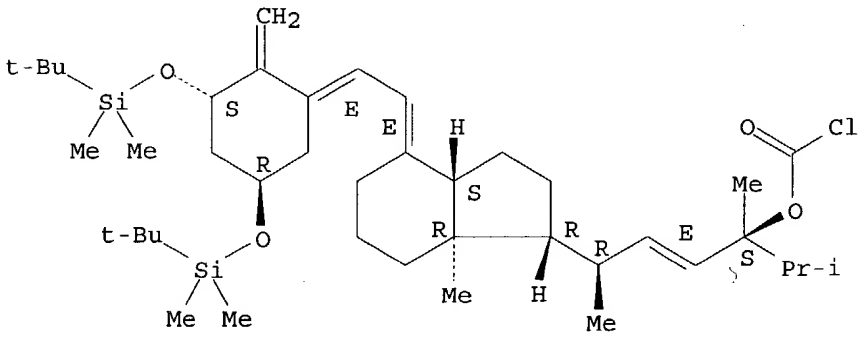
RN 140710-96-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211865-87-1 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-24-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, carbonochloridate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

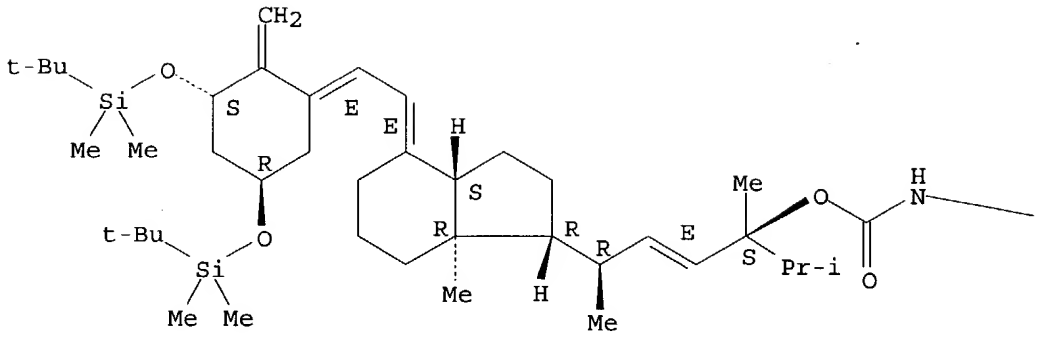
Absolute stereochemistry.
Double bond geometry as shown.



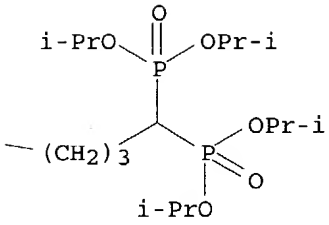
RN 211865-88-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-24-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



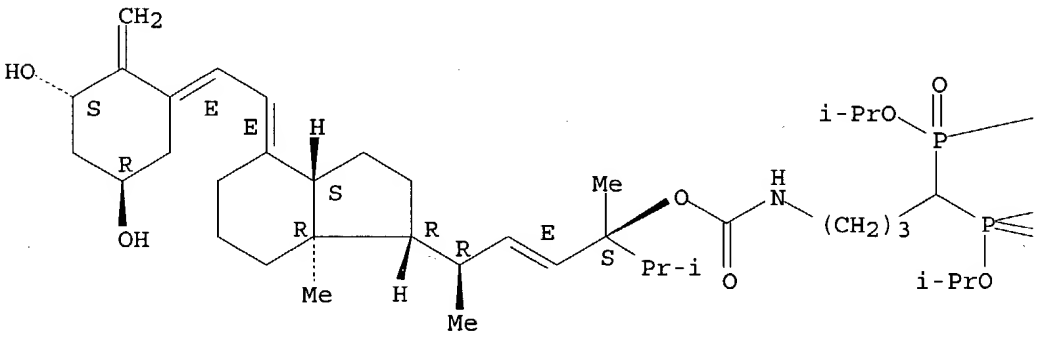
PAGE 1-B



RN 211865-89-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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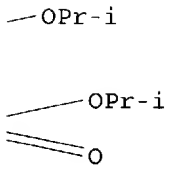
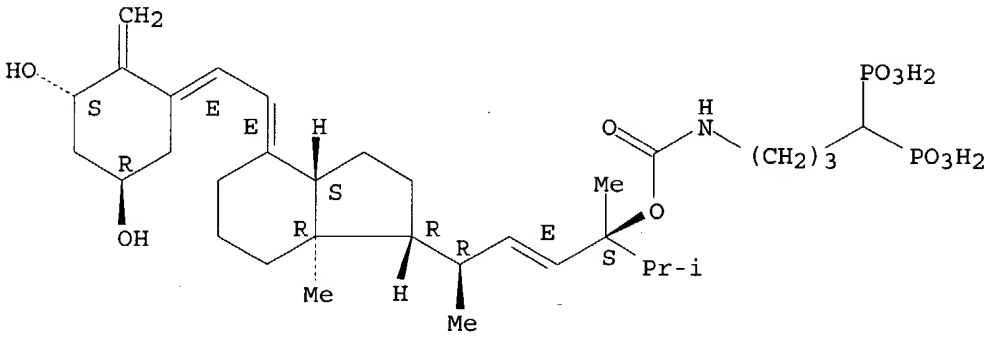


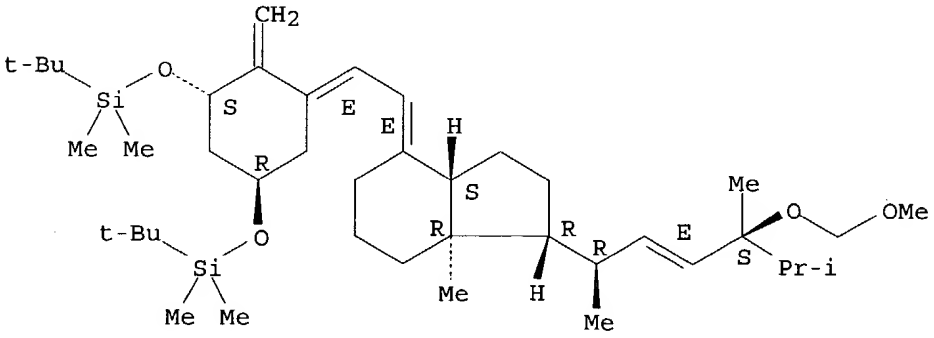
RN 211865-90-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



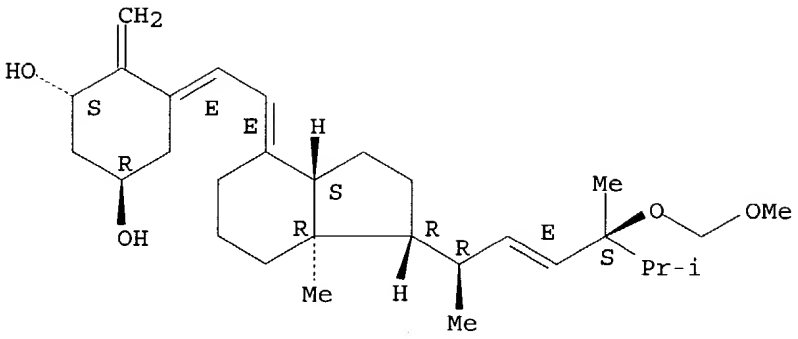
RN 211865-92-8 HCAPLUS
CN Silane, [[(1α,3β,5E,7E,22E)-24-(methoxymethoxy)-9,10-secoergosta-5,7,10(19),22-tetraene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



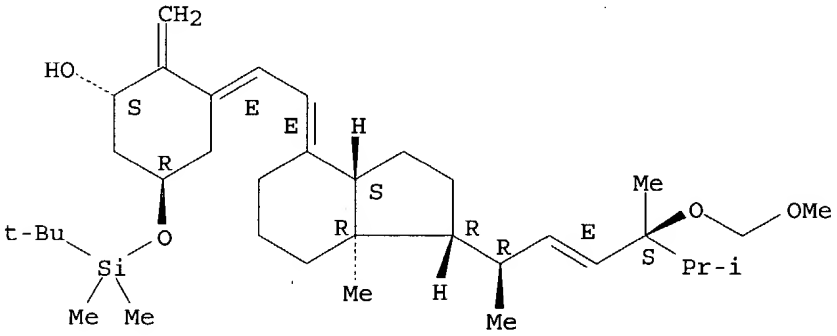
RN 211865-93-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



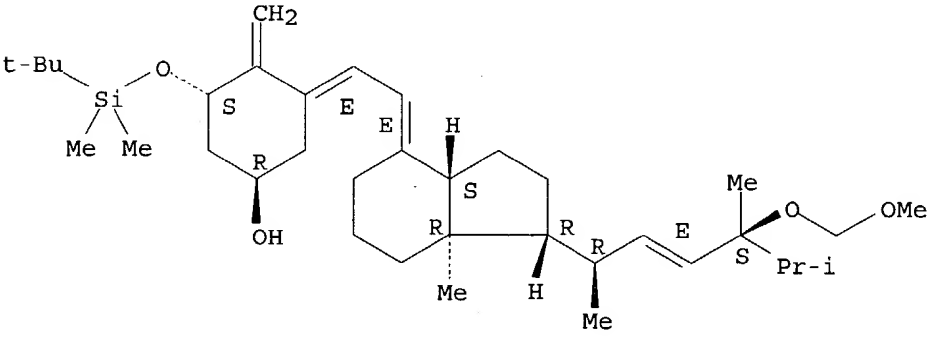
RN 211865-94-0 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



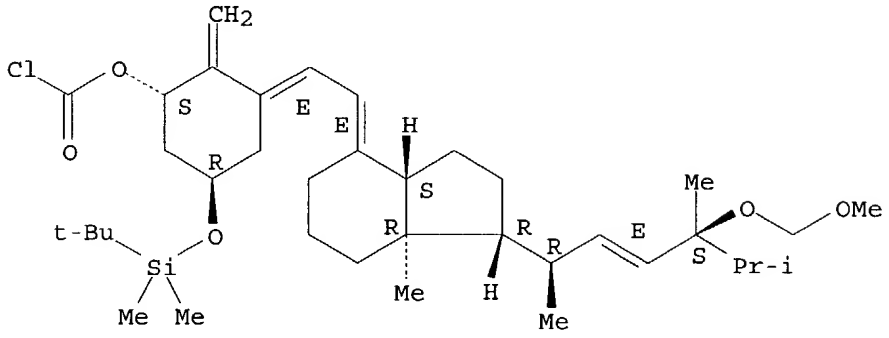
RN 211865-95-1 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211865-96-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, carbonochloridate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

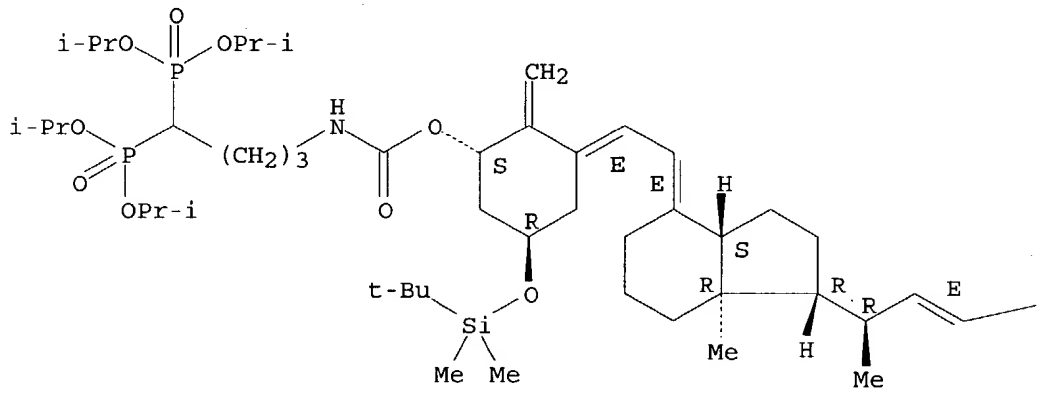
Absolute stereochemistry.
Double bond geometry as shown.



RN 211865-97-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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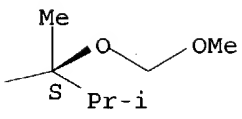
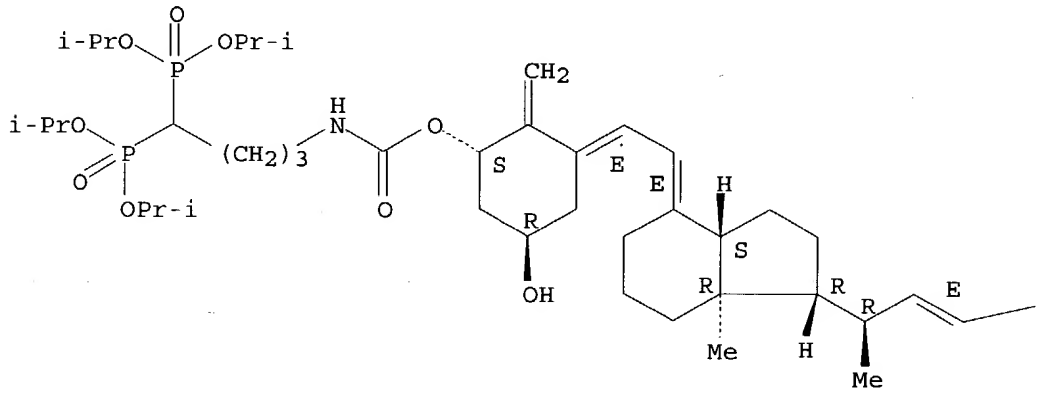


RN 211865-98-4 HCAPLUS

CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, 1-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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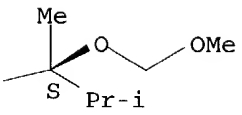
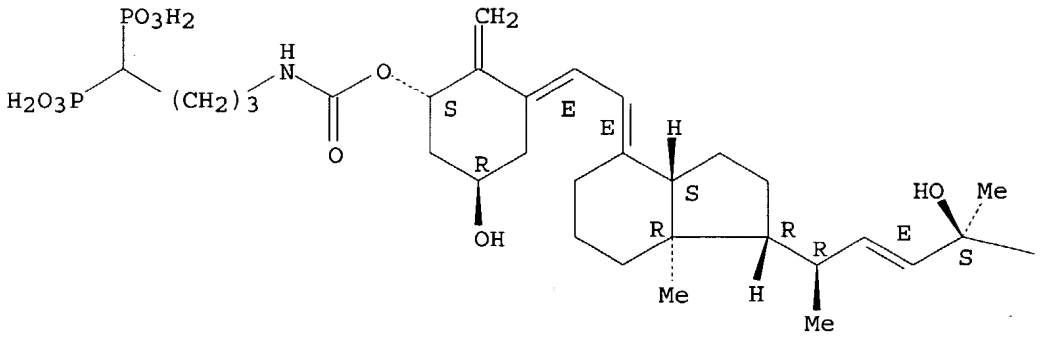


RN 211865-99-5 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

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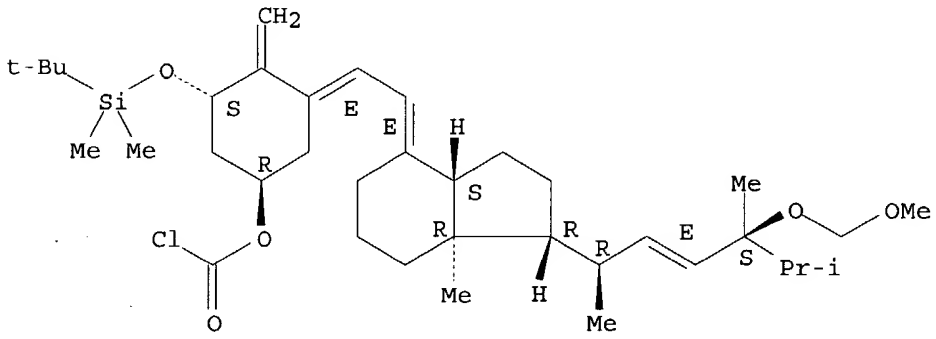
RN 211866-01-2 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, carbonochloridate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

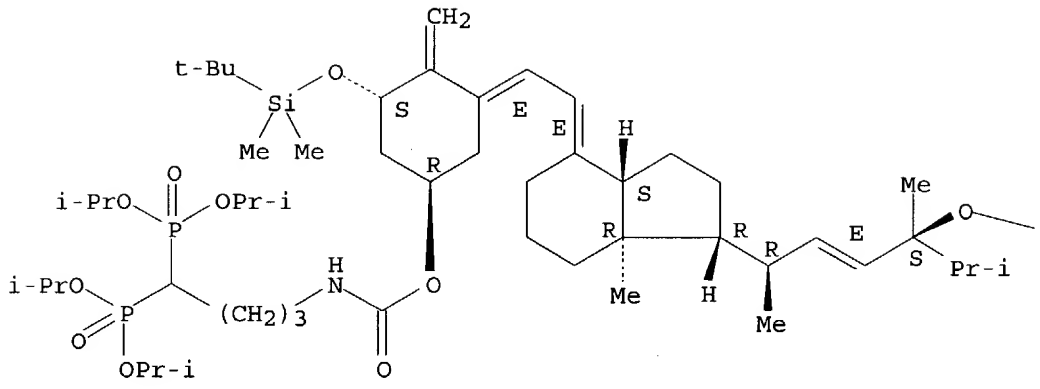
Absolute stereochemistry.
Double bond geometry as shown.



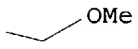
RN 211866-02-3 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



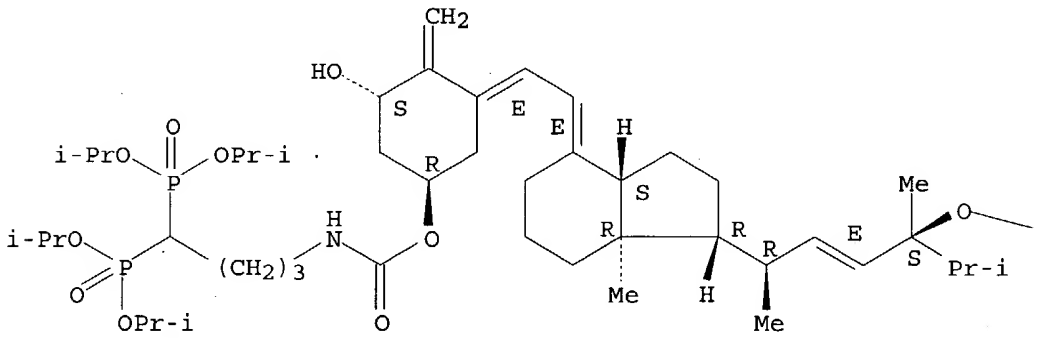
PAGE 1-B



RN 211866-03-4 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, 3-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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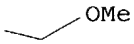
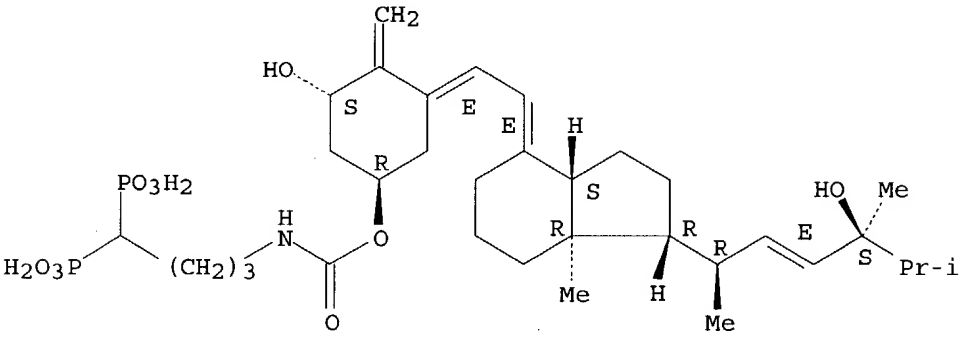


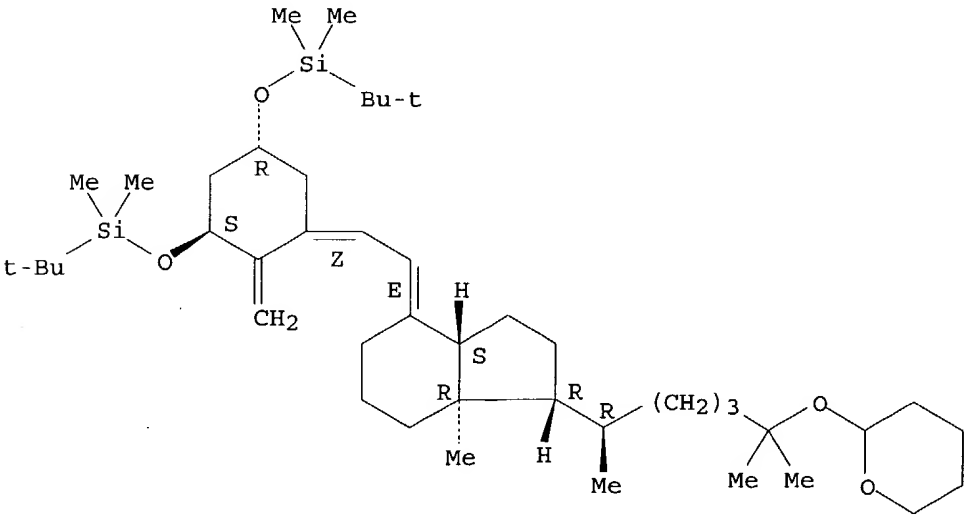
RN 211866-04-5 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



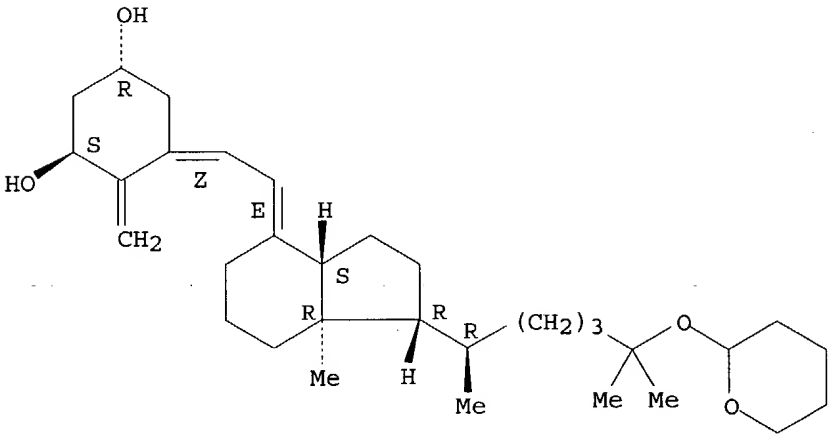
RN 211866-07-8 HCAPLUS
CN Silane, [[(1α,3β,5Z,7E)-25-[(tetrahydro-2H-pyran-2-yl)oxy]-9,10-secocholesta-5,7,10(19)-triene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



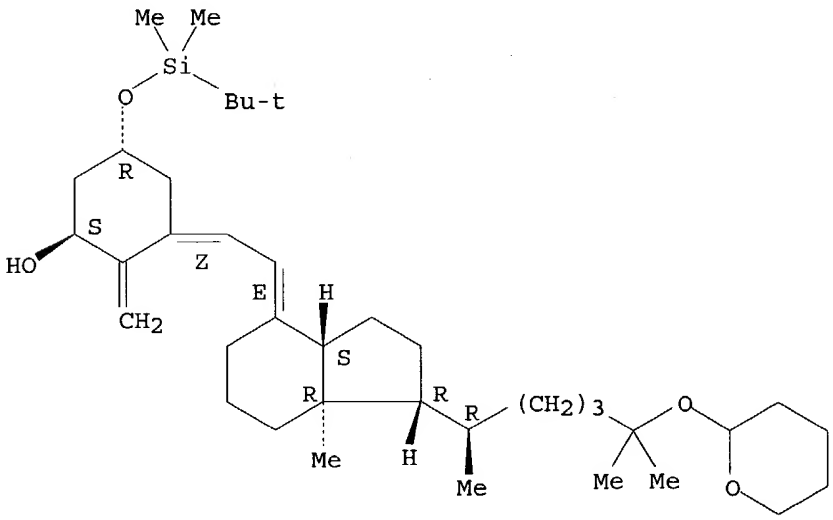
RN 211866-08-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



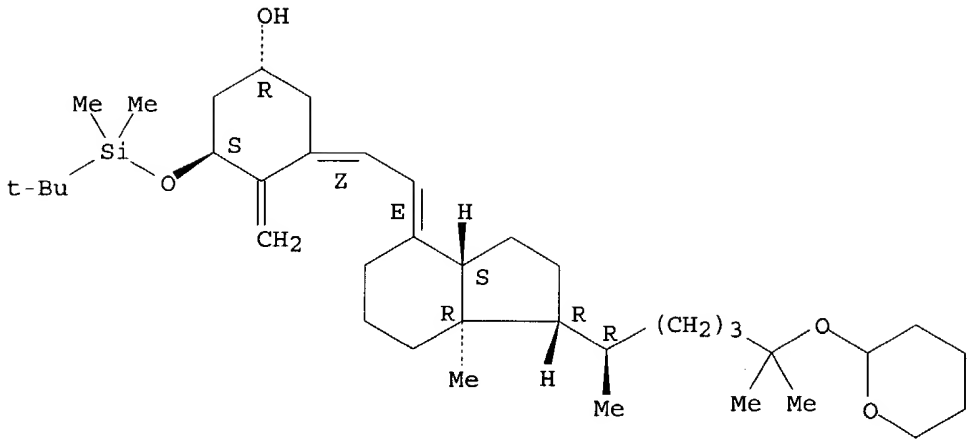
RN 211866-09-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



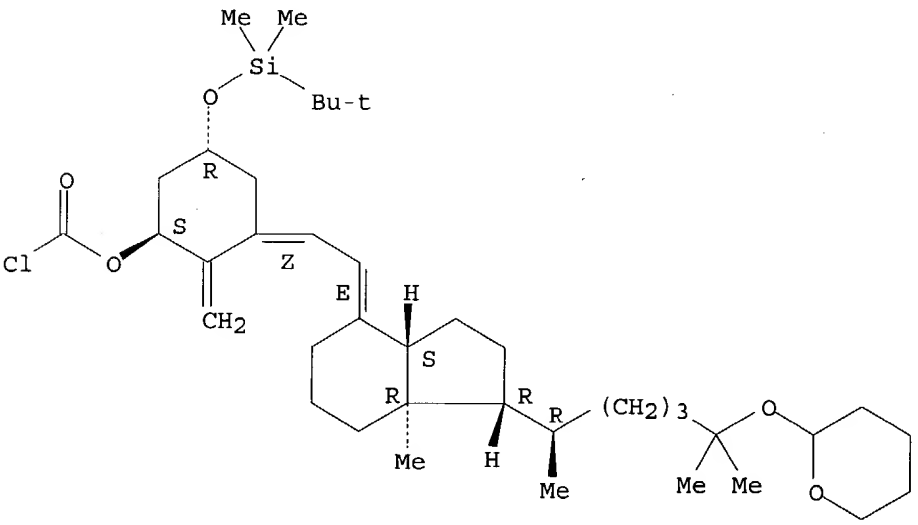
RN 211866-10-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-11-4 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, carbonochloridate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

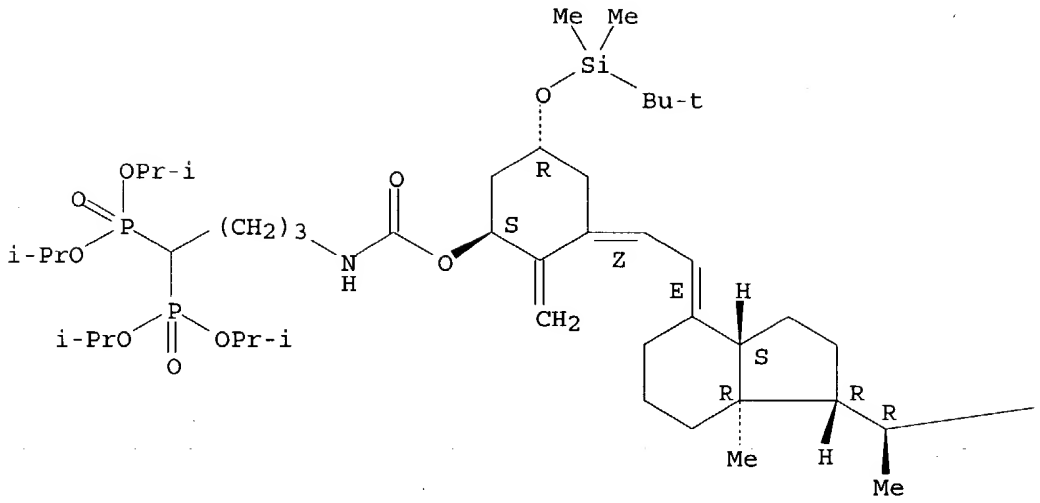
Absolute stereochemistry.
Double bond geometry as shown.



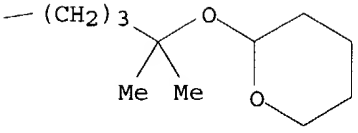
RN 211866-12-5 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



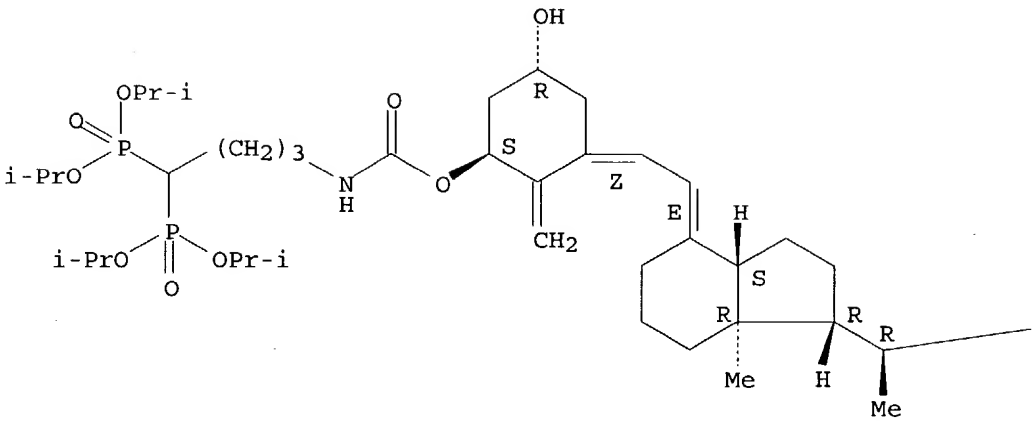
PAGE 1-B



RN 211866-13-6 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, 1-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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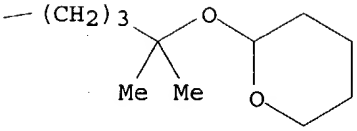
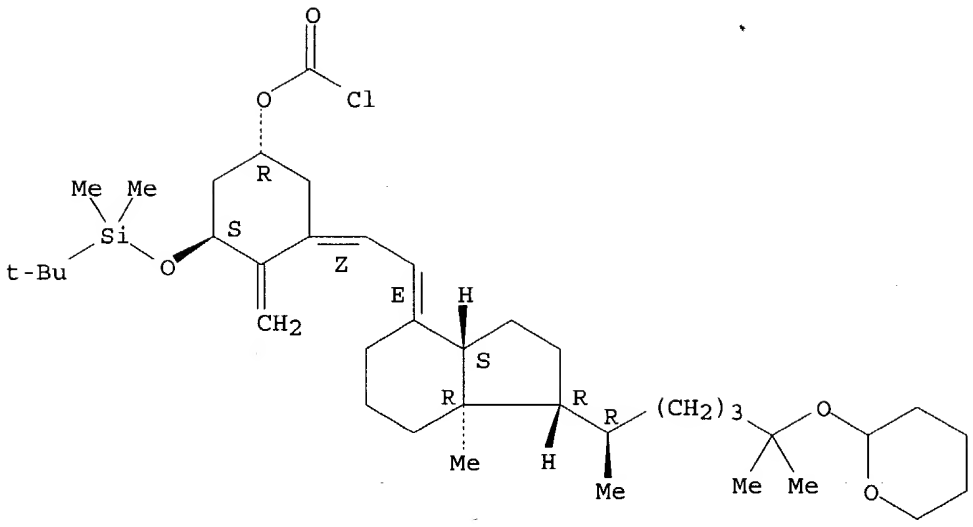


RN 211866-15-8 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, carbonochloridate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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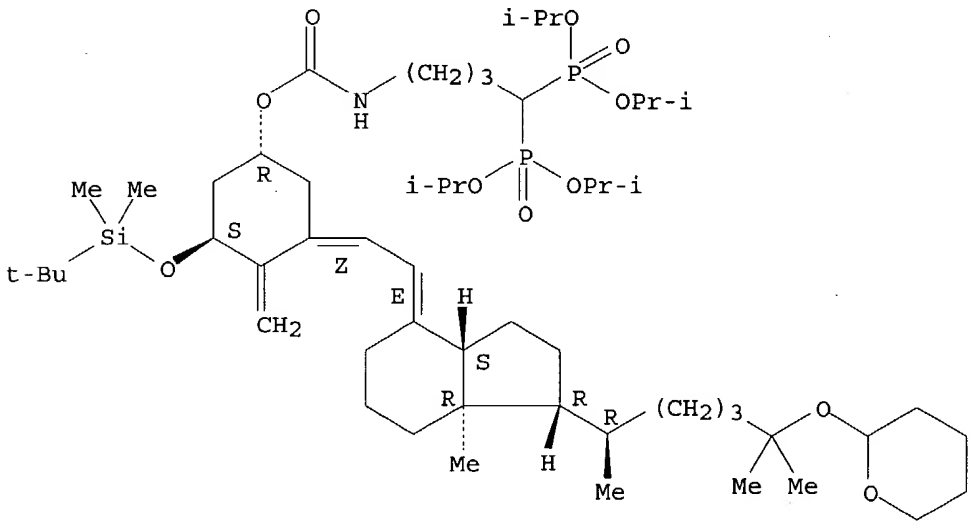
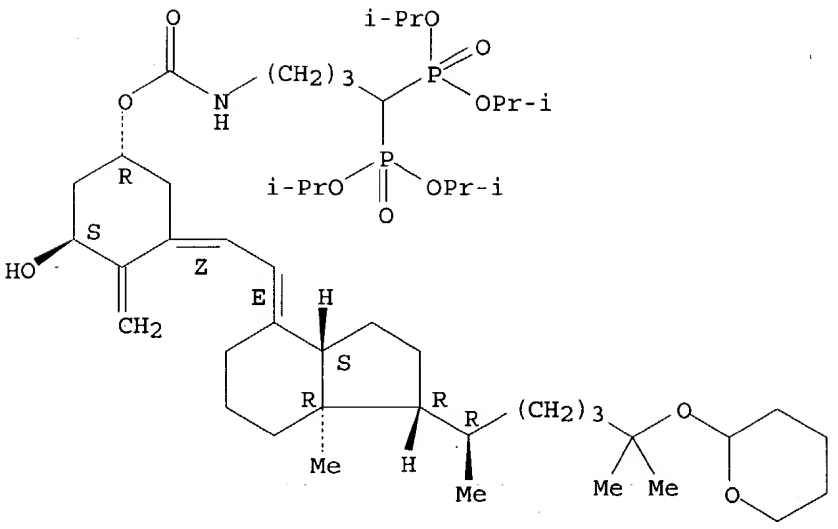
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



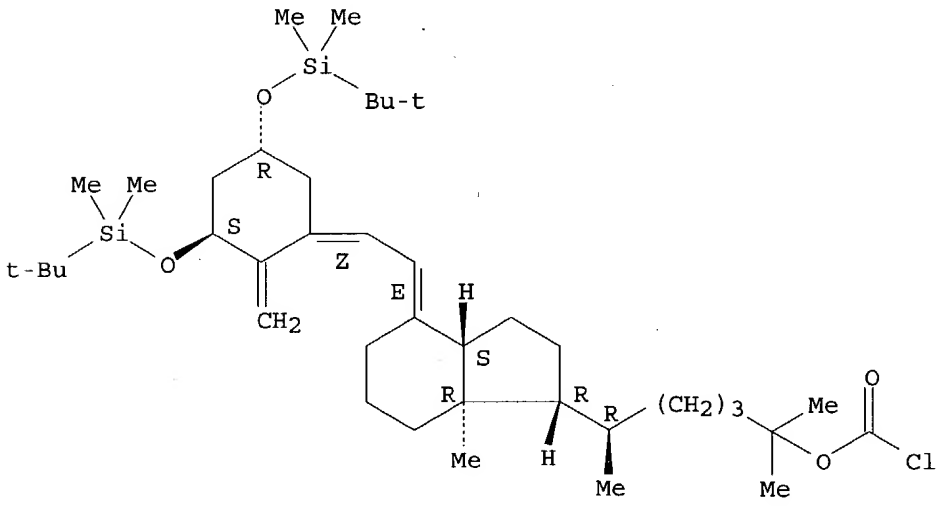
RN 211866-17-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, 3-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-19-2 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, carbonochloridate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

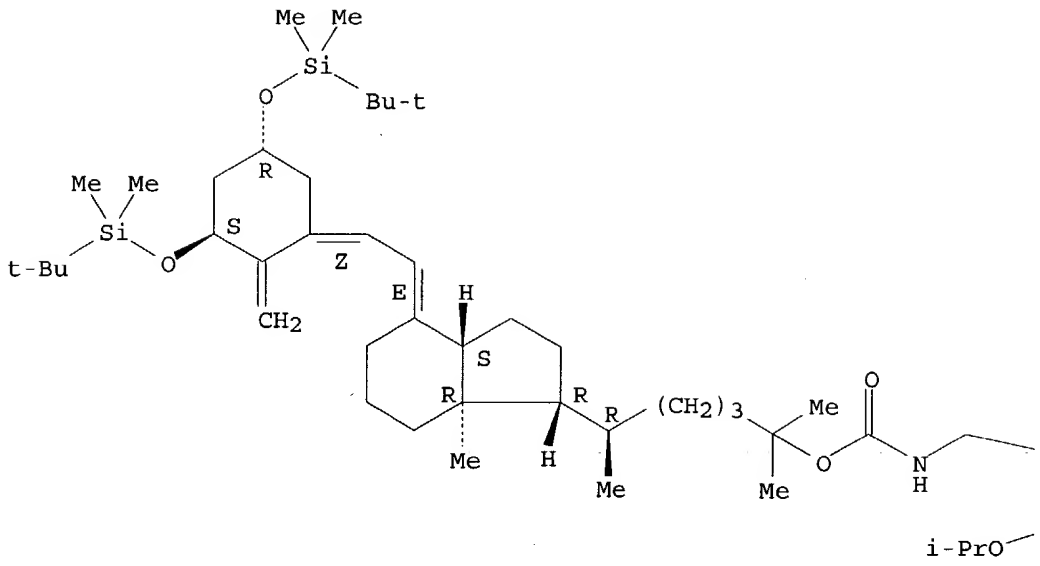
Absolute stereochemistry.
Double bond geometry as shown.



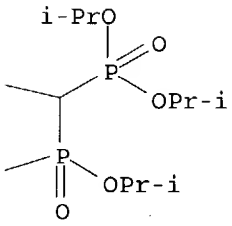
RN 211866-20-5 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, [2,2-bis[bis(1-methylethoxy)phosphinyl]ethyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



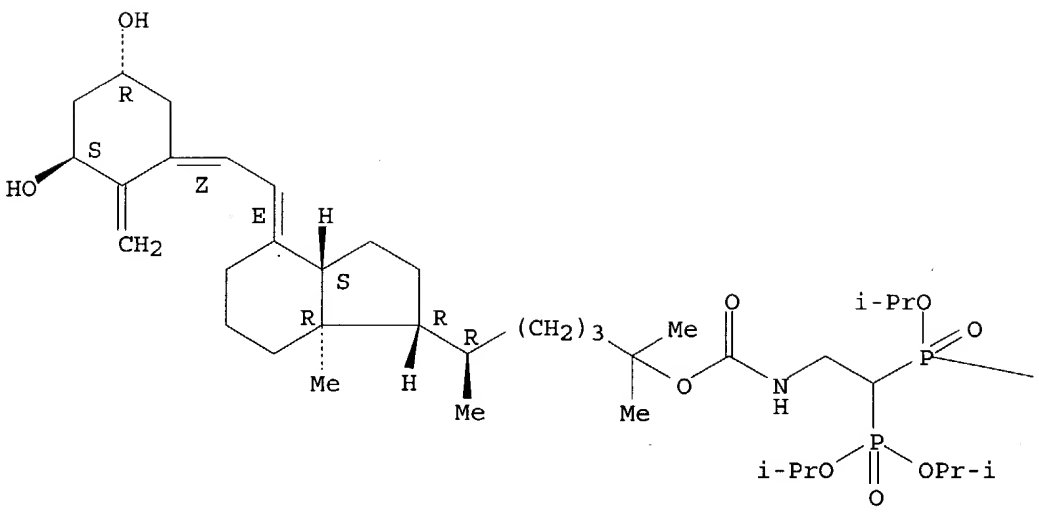
PAGE 1-B



RN 211866-21-6 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[2,2-bis[bis(1-methylethoxy)phosphinyl]ethyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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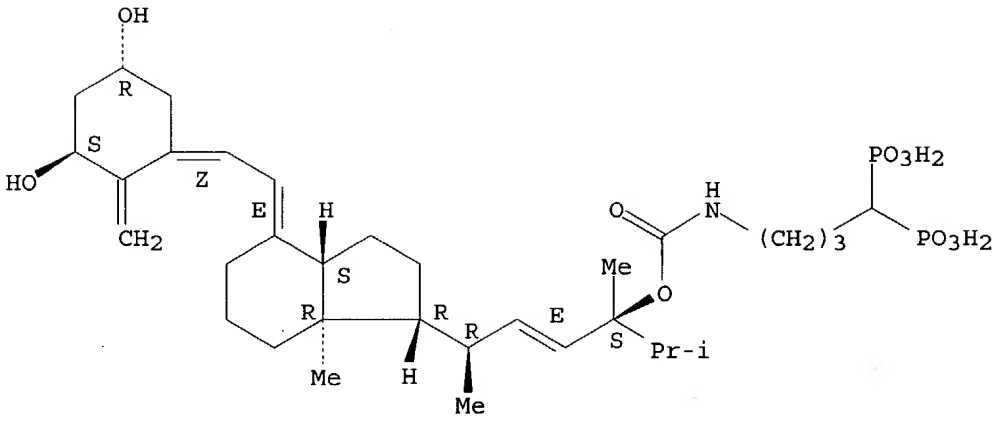
IT **211865-91-7P 211866-00-1P 211866-05-6P**
211866-14-7P 211866-18-1P 211866-22-7P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of vitamin D2 analog-bisphosphonate conjugates for targeted delivery)

RN 211865-91-7 HCAPLUS

CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

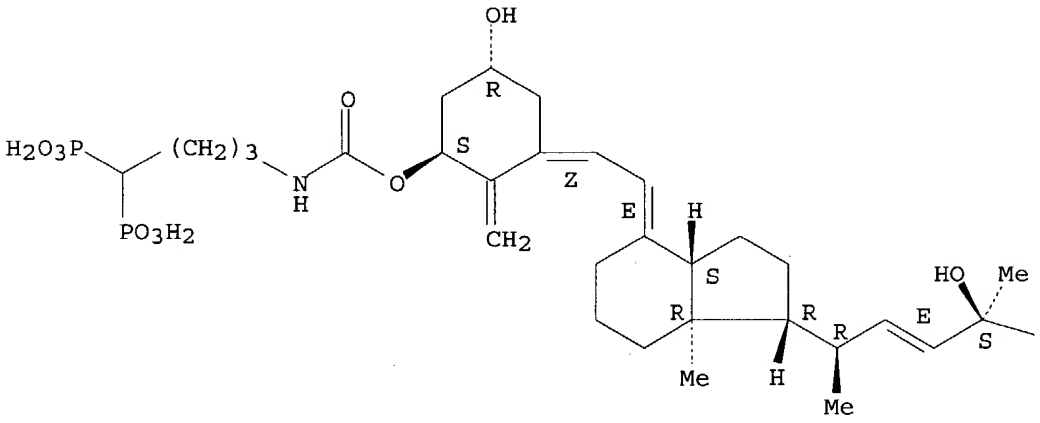
Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-00-1 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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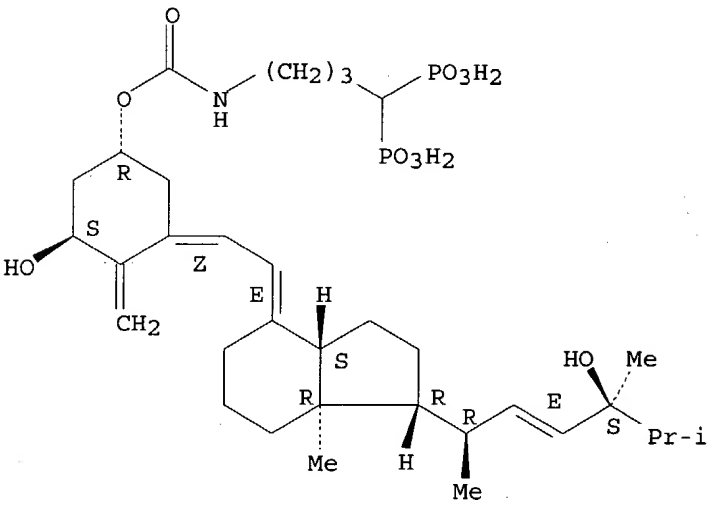
Pr-i

RN 211866-05-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

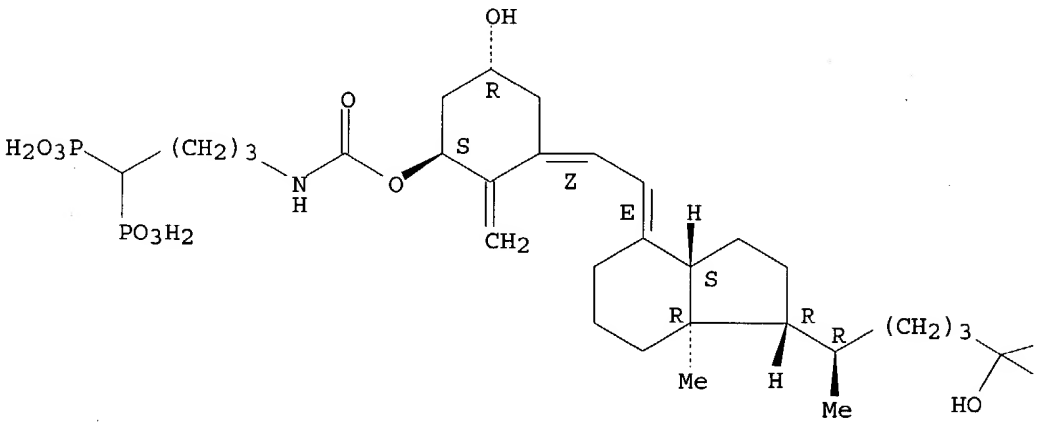
Absolute stereochemistry.
Double bond geometry as shown.

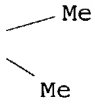


RN 211866-14-7 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A





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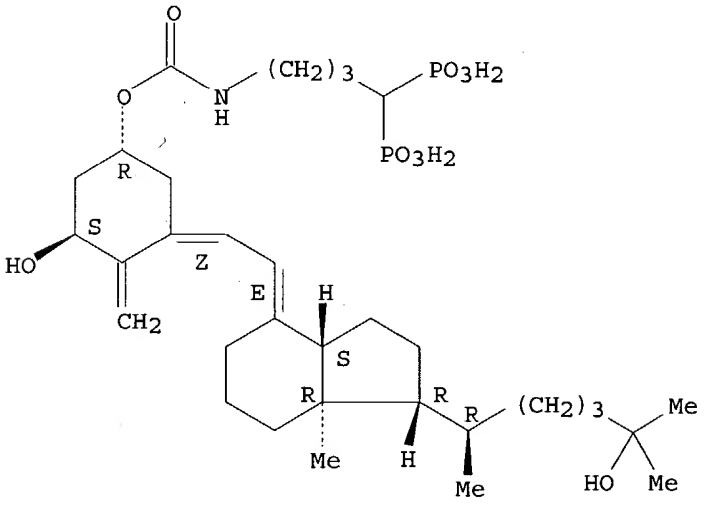
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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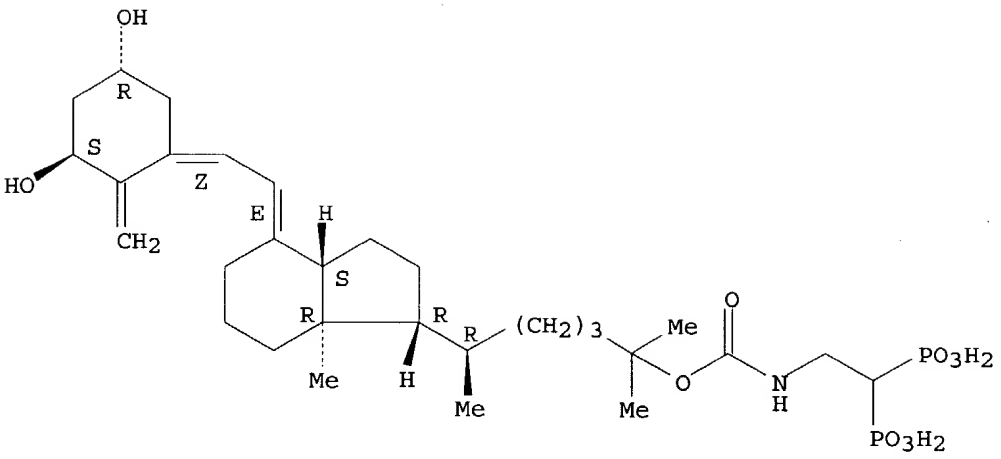
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[(2,2-diphosphonoethyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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SO Jpn. Kokai Tokkyo Koho, 5 pp.
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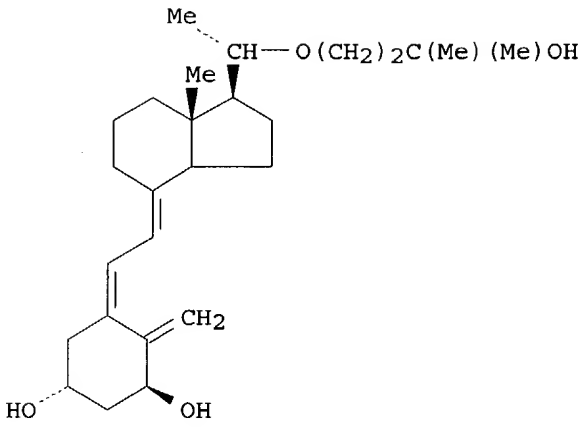
ICS A61K031-59
CC 1-6 (Pharmacology)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08277223	A2	19961022	JP 1996-22543	19960208 <--
PRAI	JP 1995-20478		19950208 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 08277223	ICM	A61K031-66
	ICS	A61K031-59

GI



I

AB Therapeutic agents for hypercalcemia contain vitamin D derivative I and/or bisphosphonates as active ingredients. Nude mice with hypercalcemia associated with cancer induced by transplantation of human pancreatic cancer cells were administered with I at 5 μg/kg i.v. on day 0 and with pamidronate at 10 mg/kg i.v. on day 1 showing blood Ca2+ level of .apprx.1.4 mmol/L on day 3, vs. .apprx.2.1 mmol/L, for controls administered with solvents instead.

ST vitamin D analog bisphosphonate hypercalcemia treatment; cancer hypercalcemia treatment vitamin D analog; pamidronate vitamin D analog hypercalcemia treatment

IT 7440-70-2, Calcium, biological studies
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(humoral hypercalcemia of malignancy; vitamin D derivative and bisphosphonates for treatment of hypercalcemia associated with cancer)

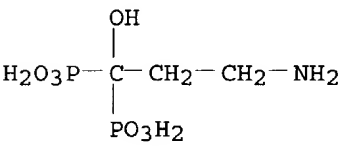
IT 7440-70-2, Calcium, biological studies
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(hypercalcemia; vitamin D derivative and bisphosphonates for treatment of hypercalcemia associated with cancer)

IT **40391-99-9 103909-75-7**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D derivative and bisphosphonates for treatment of hypercalcemia associated with cancer)

IT **40391-99-9 103909-75-7**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin D derivative and bisphosphonates for treatment of hypercalcemia associated with cancer)

RN 40391-99-9 HCAPLUS

CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)

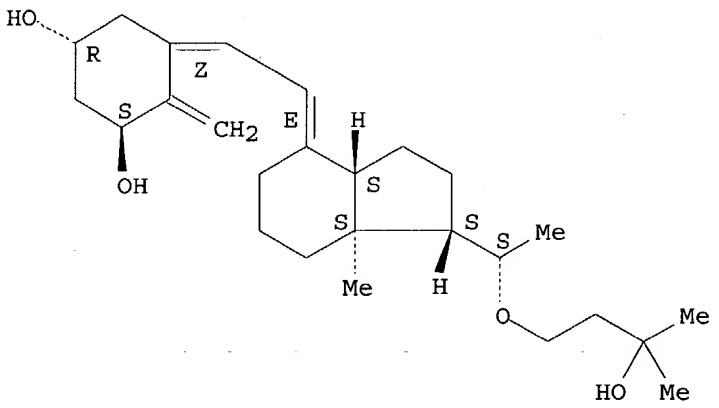


RN 103909-75-7 HCAPLUS

CN 1,3-Cyclohexanediol, 4-methylene-5-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-

(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3S,5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L32 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN **1986:161993** HCAPLUS
DN **104:161993**
ED Entered STN: 17 May 1986
TI Kit for use in the treatment of osteoporosis
IN Uchtman, Vernon Albert
PA Procter and Gamble Co., USA
SO Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM A61K031-66
ICS A61K033-42; A61K031-59
CC 1-10 (Pharmacology)
Section cross-reference(s): 2
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 162510	A1	19851127	EP 1985-200650	19850425 <--
	EP 162510	B1	19910828		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	AT 66608	E	19910915	AT 1985-200650	19850425 <--
	CA 1277233	A1	19901204	CA 1985-480203	19850426 <--
	AU 8541769	A1	19851107	AU 1985-41769	19850429 <--
	AU 584611	B2	19890601		
	ZA 8503169	A	19851224	ZA 1985-3169	19850429 <--
	DK 8501935	A	19851031	DK 1985-1935	19850430 <--
	DK 173735	B1	20010820		
	JP 61033117	A2	19860217	JP 1985-93506	19850430 <--
	JP 06055675	B4	19940727		
	IL 76043	A1	19900429	IL 1985-76043	19850808 <--
	US 4812311	A	19890314	US 1986-906859	19860912 <--
	EP 381296	A1	19900808	EP 1990-200433	19900223 <--
	EP 381296	B1	19941130		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
PRAI	US 1984-605540	A	19840430 <--		
	US 1984-684560	A	19841221 <--		
	EP 1985-200650	A	19850425 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES

EP 162510	ICM	A61K031-66
	ICS	A61K033-42; A61K031-59

AB A regimen kit is described for the treatment of osteoporosis which consists of a bone cell-activating compound (e.g., PO43-, 1,25-dihydroxyvitamin D3, F-, thyroxine, triiodothyronine, PGE2), a bone resorption-inhibiting polyphosphonate, and a nutrient supplement (e.g., Ca, vitamin D), or placebo in sequential administration. For example, patients clin. diagnosed for osteoporosis were treated with 3-8 cycles of regimen in which each cycle consists of 2 tablets (500 mg P each) of phosphate 3 times/day for 3 days, of di-Na ethane-1-hydroxy-1,1-diphosphonate (5 mg/kg/day divided in 3 doses) for 14 days, and remaining 73 days a diet containing ≥1 g Ca/day. All the patients exhibited significant improvement in osteoporotic conditions.

ST osteoporosis treatment phosphate polyphosphonate

IT Osteoporosis
(treatment of, regimen kit for)

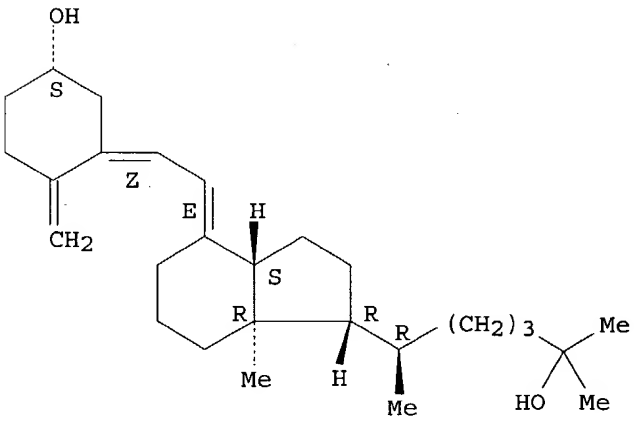
IT 51-48-9, biological studies 363-24-6 1406-16-2 2809-21-4 6893-02-3 7414-83-7 7440-70-2, biological studies 10596-23-3 12583-68-5 13598-36-2D, derivs. 14265-44-2, biological studies 16984-48-8, biological studies **19356-17-3 32222-06-3 40391-99-9 66376-36-1 79778-41-9**
RL: BIOL (Biological study)
(osteoporosis treatment with, regimen kit for)

IT **19356-17-3 32222-06-3 40391-99-9 66376-36-1 79778-41-9**
RL: BIOL (Biological study)
(osteoporosis treatment with, regimen kit for)

RN 19356-17-3 HCAPLUS

CN 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

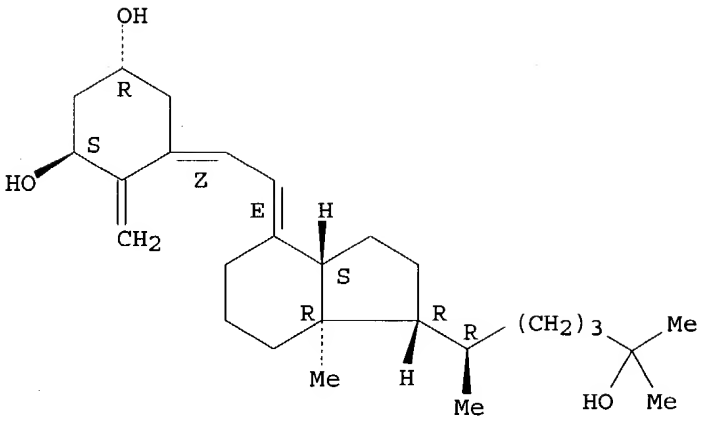
Absolute stereochemistry.
Double bond geometry as shown.



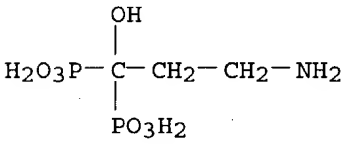
RN 32222-06-3 HCAPLUS

CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

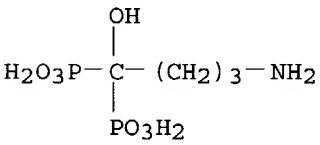
Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



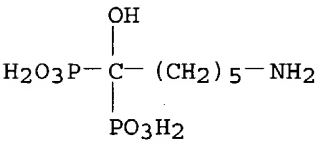
RN 40391-99-9 HCAPLUS
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)



RN 66376-36-1 HCAPLUS
CN Phosphonic acid, (4-amino-1-hydroxybutylidene)bis- (9CI) (CA INDEX NAME)

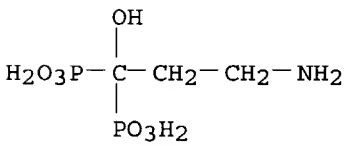


RN 79778-41-9 HCAPLUS
CN Phosphonic acid, (6-amino-1-hydroxyhexylidene)bis- (9CI) (CA INDEX NAME)



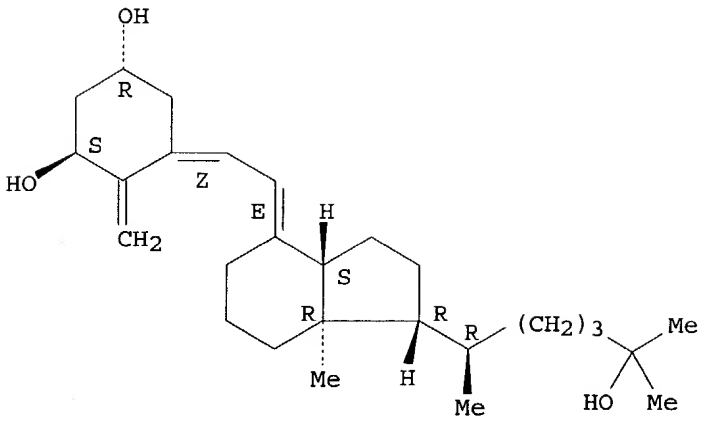
L32 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN **1986:103088** HCAPLUS
DN **104:103088**
ED Entered STN: 05 Apr 1986
TI Contrasting effects of 1,25(OH)2 vitamin D3 and aminohydroxypropylidene diphosphonate (APD) on bone turnover in the mouse
AU Marie, P. J.; Hott, M.; Garba, M. T.
CS Hop. Lariboisiere, Paris, 75010, Fr.
SO Proceedings of the Workshop on Vitamin D (**1985**), 6th(Vitam. D), 481-2
CODEN: PWVDDU; ISSN: 0721-7110

DT Journal
LA English
CC 2-9 (Mammalian Hormones)
AB 1,25-Dihydroxyvitamin D3 (I) [**32222-06-3**] administration to 37-day-old mice decreased body and skeletal growth, and these effects were antagonized by aminohydroxypropylidene diphosphonate (APD) [**40391-99-9**]. ADP also prevented the hypercalcemic effects of I. Addnl., bone mineralization was not augmented after treatment with ADP and I despite increasing circulating I levels. Thus, the stimulatory effect of I on bone mineralization is blocked when bone resorption is inhibited, suggesting that I promotes bone mineralization mainly in response to stimulation of bone resorption.
ST dihydroxyvitamin D3 bone resorption mineralization; aminohydroxypropylidene diphosphonate bone metab
IT Blood serum
(calcium of, dihydroxyvitamin D3 effect on, aminohydroxypropylidene diphosphonate in relation to)
IT Osteoclast
(dihydroxyvitamin D3 effect on, aminohydroxypropylidene diphosphonate modulation of, bone resorption in relation to)
IT Bone, metabolism
(mineralization and resorption of, dihydroxyvitamin D3 effect on)
IT Resorption
(of bone, dihydroxyvitamin D3 effect on, mineralization in relation to)
IT **40391-99-9**
RL: BIOL (Biological study)
(bone metabolism response to dihydroxyvitamin D3 and)
IT **32222-06-3**
RL: BIOL (Biological study)
(bone metabolism response to, aminohydroxypropylidene diphosphonate effect on)
IT 7440-70-2, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, by bone, dihydroxyvitamin D3 effect on, aminohydroxypropylidene diphosphonate in relation to)
IT **40391-99-9**
RL: BIOL (Biological study)
(bone metabolism response to dihydroxyvitamin D3 and)
RN 40391-99-9 HCAPLUS
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)



IT **32222-06-3**
RL: BIOL (Biological study)
(bone metabolism response to, aminohydroxypropylidene diphosphonate effect on)
RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L32 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN **1986:45761** HCAPLUS
DN **104:45761**
ED Entered STN: 23 Feb 1986
TI Use of a two- or multiphase agent for treating or preventing osteoporosis
IN Flora, Lawrence
PA Procter and Gamble Co., USA
SO Ger. Offen., 22 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM A61K031-66
ICS A61K031-59; A61K037-24; A61K031-557
CC 1-12 (Pharmacology)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3514584	A1	19851031	DE 1985-3514584	19850423 <--
	AU 8541484	A1	19851107	AU 1985-41484	19850422 <--
	AU 569391	B2	19880128		
	BE 902308	A1	19851029	BE 1985-214929	19850429 <--
	US 4822609	A	19890418	US 1986-906725	19860912 <--
PRAI	US 1984-605541		19840430	<--	
	US 1984-684542		19841221	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 3514584	ICM	A61K031-66
	ICS	A61K031-59; A61K037-24; A61K031-557

AB Osteoporosis is treated by the administration of a bone-cell-activating agent, such as inorg. phosphate, 1,25-dihydroxyvitamin D3, 25-hydroxyvitamin D3, etc., in the 1st stage, followed by the administration of a bone resorption-inhibiting polyphosphonate in the 2nd stage, and the administration of Ca and vitamin D in the 3rd stage. Thus, osteoporotic patients were given phosphate tablets (500 mg P), 3 times per day, for 3 days, followed by the administration of Didronel (5 mg/kg/day) for 14 days. Subsequently, >1 g Ca/day was administered for 45 days. The cycles were repeated 3-8 times. A decrease in the intensity of osteoporosis was observed
ST osteoporosis treatment phosphate polyphosphonate; bone resorption inhibition osteoporosis treatment
IT Phosphates, biological studies
RL: BIOL (Biological study)
(osteoporosis treatment by bone resorption-inhibiting polyphosphonates

and)

IT Osteoporosis
(treatment of, by bone cell-activating and bone resorption-inhibiting agents)

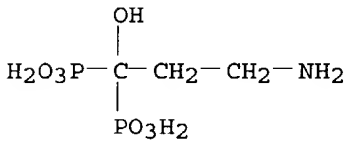
IT 1406-16-2 7440-70-2, biological studies
RL: BIOL (Biological study)
(in treatment of osteoporosis)

IT 2809-21-4 10596-23-3 **40391-99-9 66376-36-1 79778-41-9**
RL: BIOL (Biological study)
(osteoporosis treatment by bone cell-activating agents and)

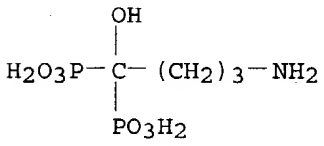
IT 51-48-9, biological studies 363-24-6 6893-02-3 9002-64-6 16984-48-8, biological studies **19356-17-3 32222-06-3**
RL: BIOL (Biological study)
(osteoporosis treatment by bone resorption-inhibiting polyphosphonates and)

IT **40391-99-9 66376-36-1 79778-41-9**
RL: BIOL (Biological study)
(osteoporosis treatment by bone cell-activating agents and)

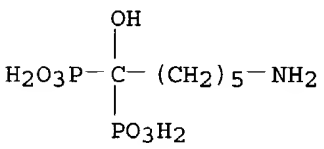
RN 40391-99-9 HCAPLUS
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)



RN 66376-36-1 HCAPLUS
CN Phosphonic acid, (4-amino-1-hydroxybutylidene)bis- (9CI) (CA INDEX NAME)



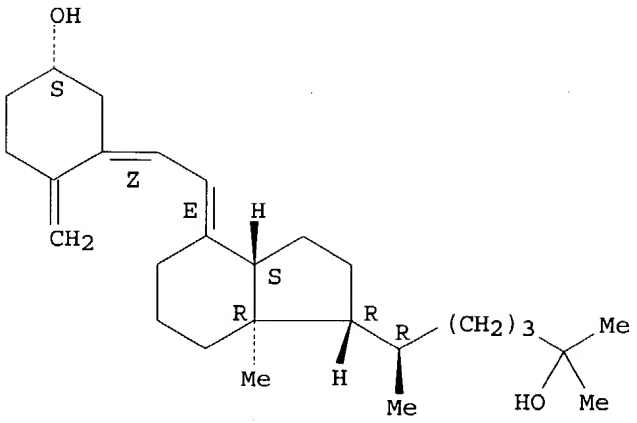
RN 79778-41-9 HCAPLUS
CN Phosphonic acid, (6-amino-1-hydroxyhexylidene)bis- (9CI) (CA INDEX NAME)



IT **19356-17-3 32222-06-3**
RL: BIOL (Biological study)
(osteoporosis treatment by bone resorption-inhibiting polyphosphonates and)

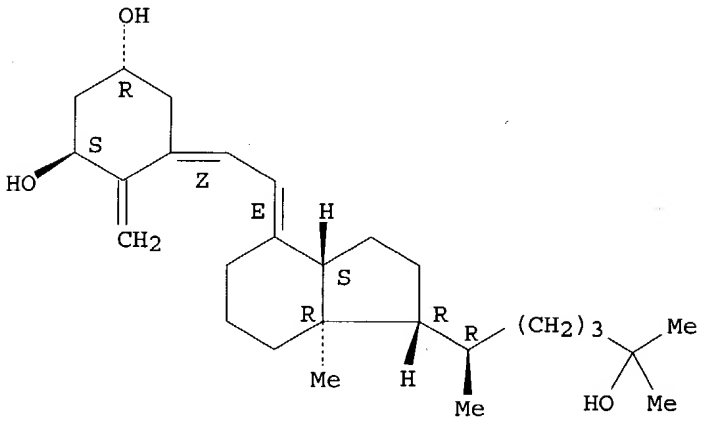
RN 19356-17-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L32 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN **1986:45760** HCAPLUS
DN **104:45760**
ED Entered STN: 23 Feb 1986
TI Multistage method for treating or preventing osteoporosis
IN Anderson, Colin; Flora, Lawrence
PA Procter and Gamble Co., USA
SO Ger. Offen., 23 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM A61K031-66
ICS A61K031-59; A61K037-24; A61K031-557
CC 1-12 (Pharmacology)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3514583	A1	19851031	DE 1985-3514583	19850423 <--
	AU 8541619	A1	19851107	AU 1985-41619	19850423 <--
	AU 568433	B2	19871224		
	BE 902307	A1	19851029	BE 1985-214928	19850429 <--

US 4812304 A 19890314 US 1986-906858 19860912 <--
PRAI US 1984-605539 19840430 <--
US 1984-684541 19841221 <--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 3514583	ICM	A61K031-66
	ICS	A61K031-59; A61K037-24; A61K031-557

AB The 1st stage of the title treatment consists of daily administration of a bone-cell-activating drug, such as 1,25-dihydroxyvitamin D3, inorg. fluoride, inorg. phosphate, etc. The 2nd stage, a bone absorption-inhibitor, such as ethane-1-hydroxy-1,1-diphosphonic acid, is administered. Ca and vitamin D are given in the 3rd stage. Thus, osteoporotic patients were given 2 tablets of inorg. phosphate (500 mg P/tablet), 3 times/day, for 3 days. Subsequently, Didronel (EHDP-Na2) (5 mg/kg/day) was administered for 14 days, followed by 73 days on a diet containing >1 g Ca/day. Remission of osteoporosis was shown by microscopic examination of bioptic samples after several treatment cycles.

ST osteoporosis treatment; bone absorption inhibitor osteoporosis treatment

IT Osteoporosis
(treatment of, with bone cell-stimulating and bone absorption-inhibiting agents)

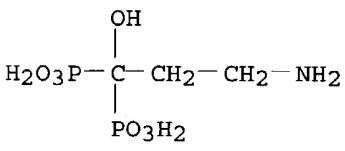
IT 2809-21-4 10596-23-3 **40391-99-9 66376-36-1 79778-41-9**
RL: BIOL (Biological study)
(bone absorption-inhibiting agent, in osteoporosis treatment)

IT 51-48-9, biological studies 363-24-6 6893-02-3 7414-83-7 7681-49-4, biological studies 9002-64-6 16984-48-8, biological studies **19356-17-3 32222-06-3**
RL: BIOL (Biological study)
(bone cell-activating agent, in osteoporosis treatment)

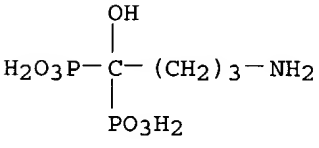
IT 1406-16-2 7440-70-2, biological studies
RL: BIOL (Biological study)
(in osteoporosis treatment)

IT **40391-99-9 66376-36-1 79778-41-9**
RL: BIOL (Biological study)
(bone absorption-inhibiting agent, in osteoporosis treatment)

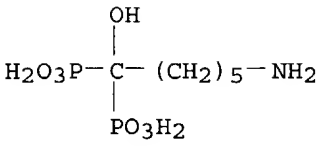
RN 40391-99-9 HCAPLUS
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)



RN 66376-36-1 HCAPLUS
CN Phosphonic acid, (4-amino-1-hydroxybutylidene)bis- (9CI) (CA INDEX NAME)

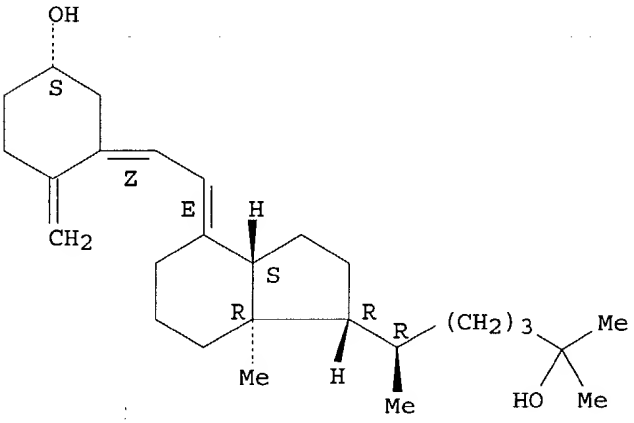


RN 79778-41-9 HCAPLUS
CN Phosphonic acid, (6-amino-1-hydroxyhexylidene)bis- (9CI) (CA INDEX NAME)



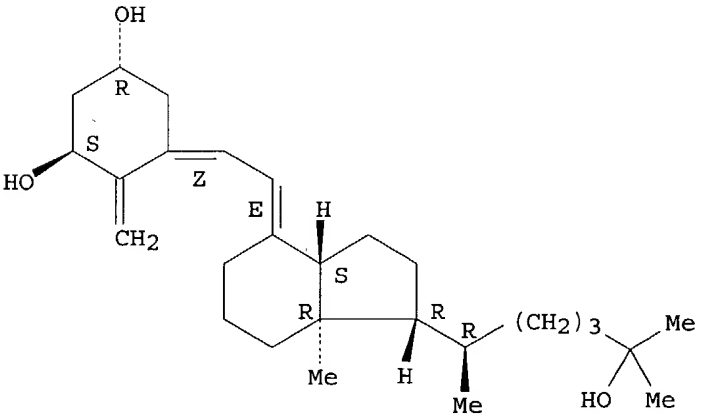
IT **19356-17-3 32222-06-3**
RL: BIOL (Biological study)
(bone cell-activating agent, in osteoporosis treatment)
RN 19356-17-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

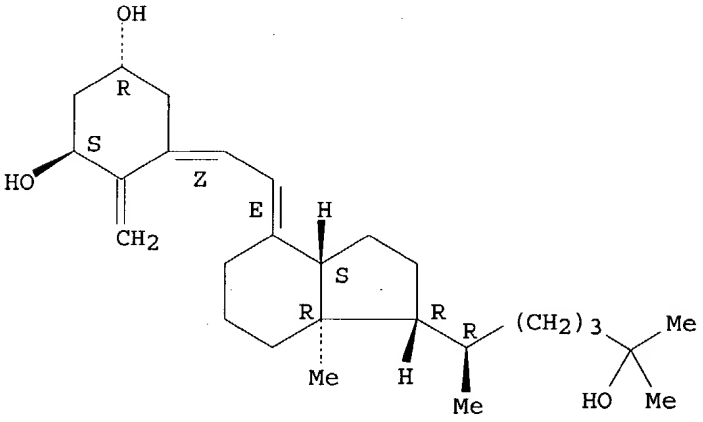


L32 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
AN **1985:554780** HCAPLUS
DN **103:154780**
ED Entered STN: 16 Nov 1985

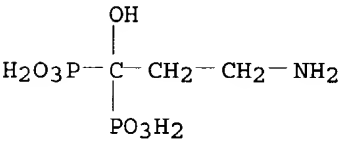
TI Inhibition by aminohydroxypropylidene bisphosphonate (**AHPrBP**) of 1,25-dihydroxyvitamin D3-induced stimulated bone turnover in the mouse
AU Marie, Pierre J.; Hott, Monique; Garba, Marie Therese
CS INSERM, Hop. Lariboisiere, Paris, 75010, Fr.
SO Calcified Tissue International (**1985**), 37(3), 268-75
CODEN: CTINDZ; ISSN: 0171-967X
DT Journal
LA English
CC 2-9 (Mammalian Hormones)
AB 1,25-Dihydroxyvitamin D3 [1,25(OH)2D3] [**32222-06-3**]-induced increased bone mineralization in the mouse was evaluated in relation to stimulation of bone resorption. To inhibit bone resorption, 35-day-old mice were given 16 μmol/kg/day of (3-amino-1-hydroxypropylidene)-1,1-biphosphonate (**AHPrBP**) [**40391-99-9**] for 10 days, the 1st injection occurring 3 days prior to the continuous infusion of 0.006, 0.13, or 0.20 μg/kg/day of 1,25(OH)2D3 for 7 days. Two groups of mice were treated with **AHPrBP** or 1,25(OH)2D3 alone. The skeletal changes were assessed by histomorphometric study of caudal vertebrae after double [3H]proline and double tetracycline labelings for evaluation of the matrix apposition rate(MaAR) and mineral apposition rate(MiAR), resp. Treatment with **AHPrBP** alone or combined with 1,25(OH)2D3 decreased the number of acid phosphatase [9001-77-8]-stained osteoclasts and reduced the endosteal MaAR and MiAR and the amount of osteoid. When given alone, 1,25(OH)2D3 increased serum Ca above normal, enhanced the number of histochem. active osteoclasts, and stimulated the endosteal MiAR. Pretreatment with **AHPrBP** blocked both the increase in serum Ca and the stimulation of the MirAR induced by 1,25(OH)2D3 infusion though serum 1,25(OH)2D3 levels rose according to the dose given. The serum Ca and the bone resorbing responses to 1,25(OH)2D3 infusion are prevented by pretreatment with **AHPrBP**, and the stimulatory effects of 1,25(OH)2D3 on the mineralization rate is blocked when bone resorption is inhibited. Evidently, 1,25(OH)2D3 promotes bone mineralization in the mouse mainly in response to stimulation of bone resorption.
ST vitamin D bone mineralization resorption; dihydroxycholecalciferol bone mineralization resorption
IT Osteoclast
(acid phosphatase of, in dihydroxyvitamin D3-induced bone mineralization, bone resorption in relation to)
IT Blood serum
(calcium of, in dihydroxyvitamin D3-induced bone mineralization, bone resorption in relation to)
IT Bone, metabolism
(mineralization of, dihydroxyvitamin D3 effect on, resorption in relation to)
IT Resorption
(of bone, dihydroxyvitamin D3-induced mineralization in relation to)
IT **32222-06-3**
RL: BIOL (Biological study)
(bone mineralization stimulation by, bone resorption in relation to)
IT **40391-99-9**
RL: BIOL (Biological study)
(bone resorption inhibition by, dihydroxyvitamin D3 effect on bone mineralization in)
IT 7440-70-2, biological studies
RL: BIOL (Biological study)
(of blood serum, in dihydroxyvitamin D3-induced bone mineralization, bone resorption in relation to)
IT 9001-77-8
RL: BIOL (Biological study)
(of osteoclasts, in dihydroxyvitamin D3-induced bone mineralization, bone resorption in relation to)
IT **32222-06-3**
RL: BIOL (Biological study)

(bone mineralization stimulation by, bone resorption in relation to)
RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



IT **40391-99-9**
RL: BIOL (Biological study)
(bone resorption inhibition by, dihydroxyvitamin D3 effect on bone mineralization in)
RN 40391-99-9 HCAPLUS
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)



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CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 10:42:01 ON 16 NOV 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> => d l40 bib abs kwic hitstr tot

L40 ANSWER 1 OF 6 USPATFULL on STN
AN 2003:187408 USPATFULL
TI Targeted therapeutic delivery of vitamin D compounds
IN Mazess, Richard B., Madison, WI, UNITED STATES
Bishop, Charles W., Madison, WI, UNITED STATES
PA Bone Care International, Inc., Middleton, WI (U.S. corporation)
PI US 2003129194 A1 20030710
AI US 2002-251905 A1 20020920 (10)
RLI Continuation-in-part of Ser. No. US 2000-402636, filed on 26 Apr 2000, PENDING A 371 of International Ser. No. WO 1998-US2899, filed on 13 Feb 1998, PENDING
PRAI US 1997-38364P 19970213 (60) <--

DT Utility
FS APPLICATION
LREP MICHAEL BEST & FRIEDRICH, LLP, ONE SOUTH PINCKNEY STREET, P O BOX 1806, MADISON, WI, 53701
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 9 Drawing Page(s)
LN.CNT 1655
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to a conjugate which includes at least one vitamin D moiety thereof and at least one targeting molecule moiety to pharmaceutical compositions of the conjugate, and to methods for using the conjugate for target-specific delivery of vitamin D or analogs thereof to tissues in need thereof. When a particularly preferred form is administered to a patient, the targeting molecule component of the conjugate of this invention seeks out and binds to a tissue of interest, such as bone or tumor tissue, where the vitamin D has a therapeutic effect.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
PRAI US 1997-38364P 19970213 (60) <--
DETD . . . Examples of bisphosphonates include, but are not limited to 1-hydroxyethylidene-1,1-bisphosphonic ligand (etidronate), dichloromethylene bisphosphonic acid ligand, 3-amino-1-hydroxypropylidene-1-bisphosphonic acid ligand (pamidronate), **alendronate**, clodronate, **ibandronate**, rosedronate, tiludronate, **zoledronate**, and combinations thereof. For example, a specific bisphosphonate moiety which is suitably operable in the present invention is represented by. . .
CLM What is claimed is:
33. A method as set forth in claim 34, wherein the bisphosphonate includes at least one of **alendronate**, clodronate, etidronate, **ibandronate**, pamidronate, **risedronate**, tiludronate, **zoledronate** and combinations thereof.

IT 107-30-2, Chloromethyl methyl ether 70550-73-1 **211865-86-0**
(targeted therapeutic delivery of vitamin D compds.)
IT 81522-68-1P **140710-96-9P 144034-23-1P**
211865-87-1P 211865-88-2P 211865-89-3P
211865-90-6P 211865-92-8P 211865-93-9P
211865-94-0P 211865-96-2P 211865-97-3P
211865-98-4P 211865-99-5P 211866-01-2P
211866-02-3P 211866-03-4P 211866-04-5P
211866-06-7P **211866-07-8P 211866-08-9P**
211866-09-0P 211866-11-4P 211866-12-5P
211866-13-6P 211866-15-8P 211866-16-9P
211866-17-0P 211866-19-2P 557072-52-3P
557072-53-4P
(targeted therapeutic delivery of vitamin D compds.)
IT **211865-95-1P**
(targeted therapeutic delivery of vitamin D compds.)
IT **211866-10-3P**
(targeted therapeutic delivery of vitamin D compds.)
IT **211865-91-7P 211866-00-1P 211866-05-6P**
211866-14-7P 211866-18-1P 557072-54-5P
(targeted therapeutic delivery of vitamin D compds.)
IT 1406-16-2D, Vitamin d, conjugates 2809-21-4 10596-23-3
32222-06-3, 1α,25-Dihydroxyvitamin D3 **40391-99-9**
41294-56-8, 1α-Hydroxyvitamin D3 **54573-75-0**,
1α-Hydroxyvitamin D2 **60133-18-8**, 1α,25-
Dihydroxyvitamin D2 **66376-36-1**, Alendronate **83805-11-2**
, Falecalcitriol 89987-06-4, Tiludronate **103909-75-7**,
Maxacalcitol **105462-24-6 112965-21-6**, Calcipotriol

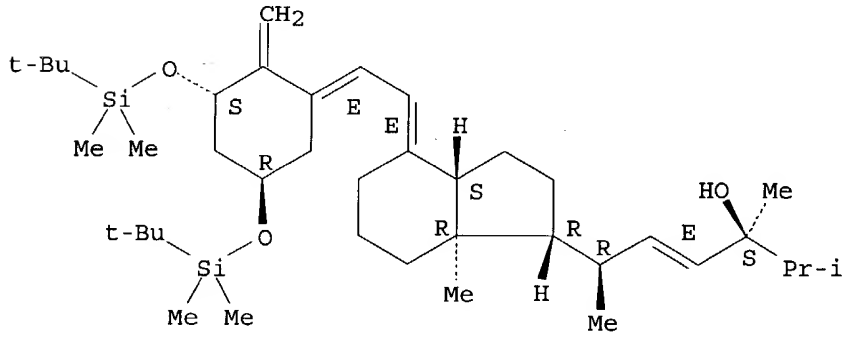
114084-78-5, Ibandronate **118072-93-8**, Zoledronate **124043-51-2**, 1α,24-Dihydroxyvitamin D2 **131249-38-2**, 1α,25-Dihydroxyvitamin D4 **131918-61-1**, Paricalcitol **134404-52-7**, Seocalcitol **157893-62-4**, 1α,24-Dihydroxyvitamin D4
(targeted therapeutic delivery of vitamin D compds.)

IT **211865-86-0**
(targeted therapeutic delivery of vitamin D compds.)

RN 211865-86-0 USPATFULL

CN 9,10-Secoergosta-5,7,10(19),22-tetraen-24-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

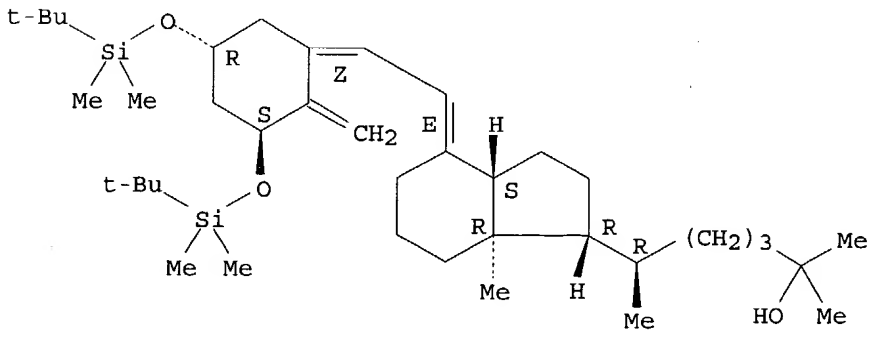


IT **140710-96-9P 144034-23-1P 211865-87-1P**
211865-88-2P 211865-89-3P 211865-90-6P
211865-92-8P 211865-93-9P 211865-94-0P
211865-96-2P 211865-97-3P 211865-98-4P
211865-99-5P 211866-01-2P 211866-02-3P
211866-03-4P 211866-04-5P 211866-07-8P
211866-08-9P 211866-09-0P 211866-11-4P
211866-12-5P 211866-13-6P 211866-15-8P
211866-16-9P 211866-17-0P 211866-19-2P
557072-52-3P 557072-53-4P
(targeted therapeutic delivery of vitamin D compds.)

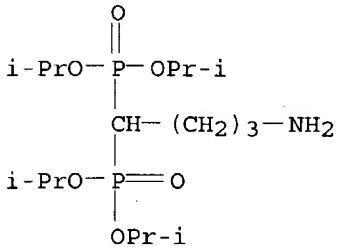
RN 140710-96-9 USPATFULL

CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

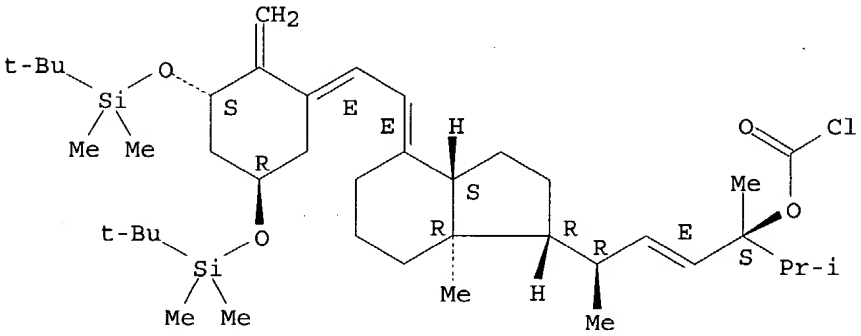


RN 144034-23-1 USPATFULL
CN Phosphonic acid, (4-aminobutylidene)bis-, tetrakis(1-methylethyl) ester (9CI) (CA INDEX NAME)



RN 211865-87-1 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-24-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, carbonochloridate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

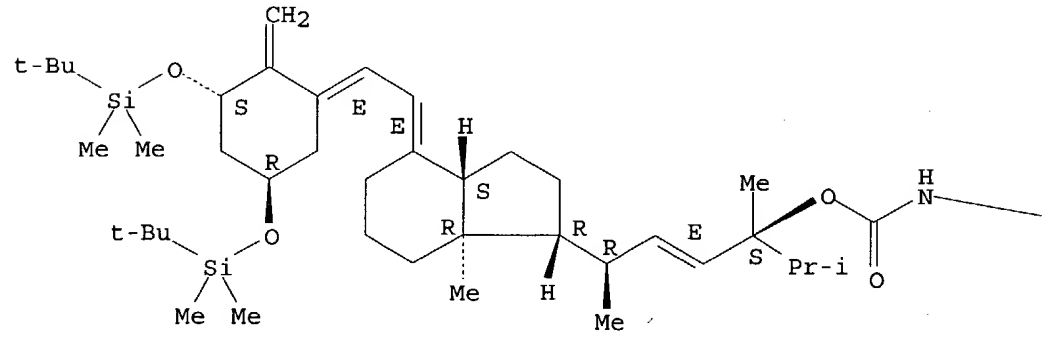
Absolute stereochemistry.
Double bond geometry as shown.



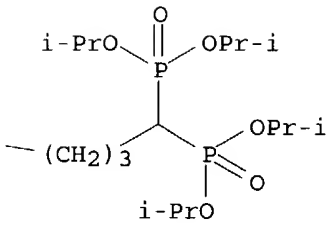
RN 211865-88-2 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-24-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



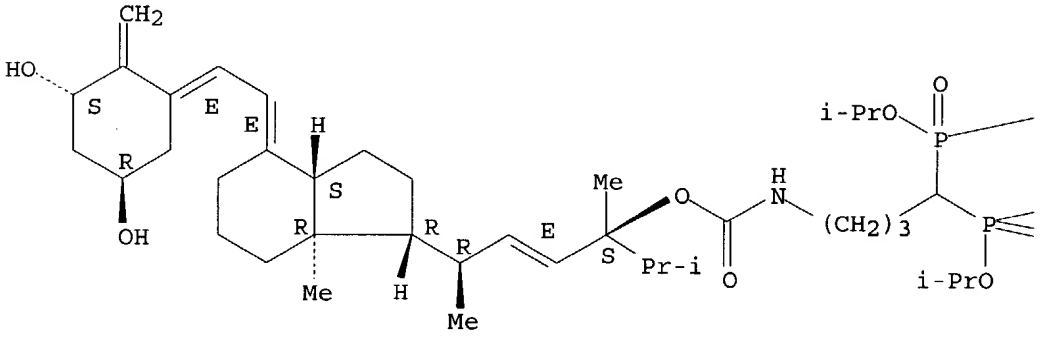
PAGE 1-B



RN 211865-89-3 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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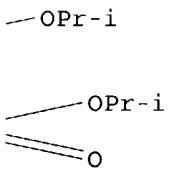
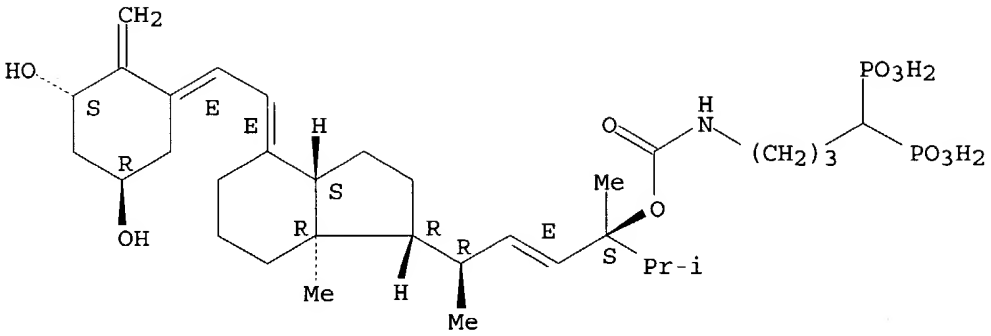


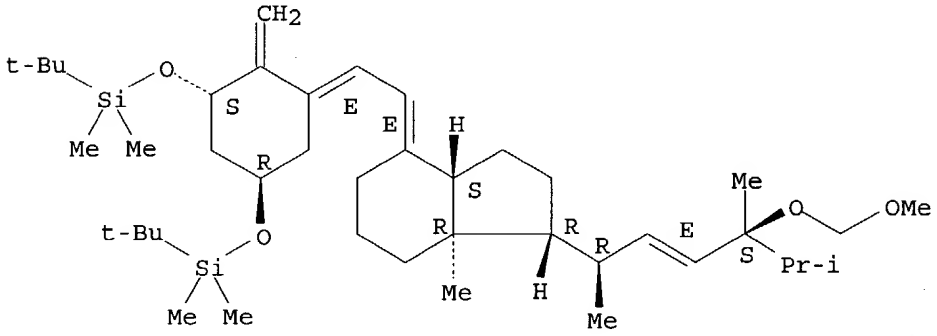
RN 211865-90-6 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate] (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



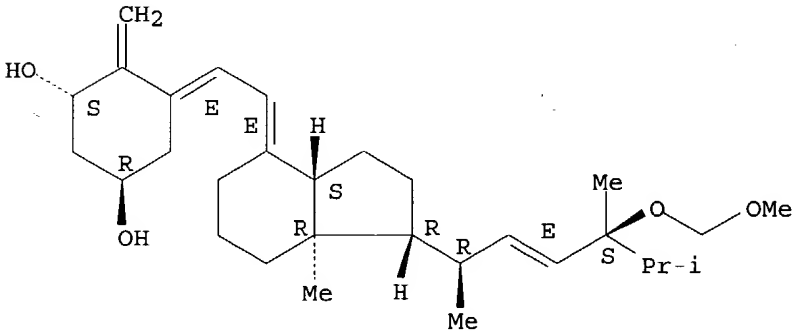
RN 211865-92-8 USPATFULL
CN Silane, [[(1α,3β,5E,7E,22E)-24-(methoxymethoxy)-9,10-secoergosta-5,7,10(19),22-tetraene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



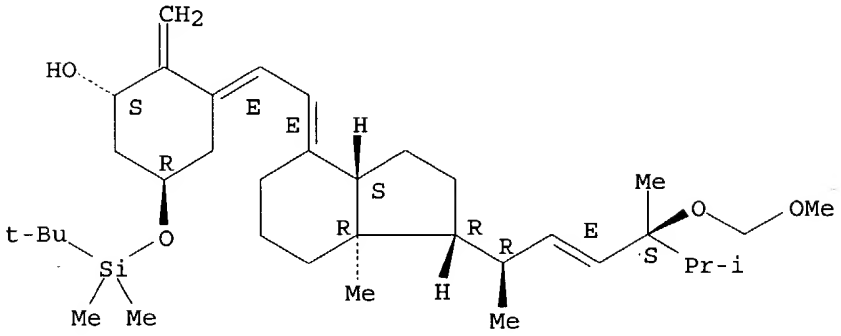
RN 211865-93-9 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



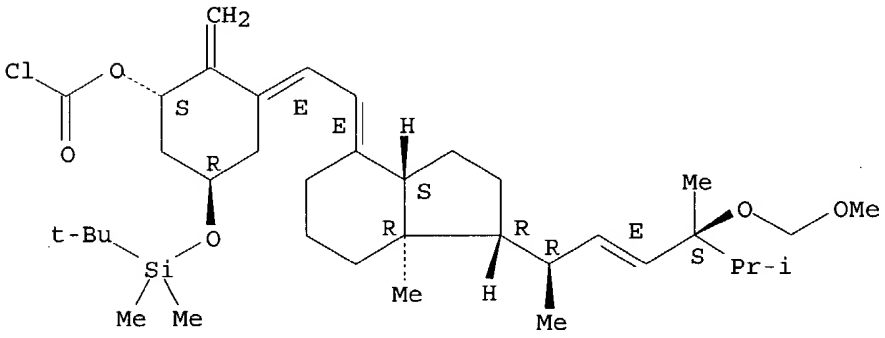
RN 211865-94-0 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211865-96-2 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, carbonochloridate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

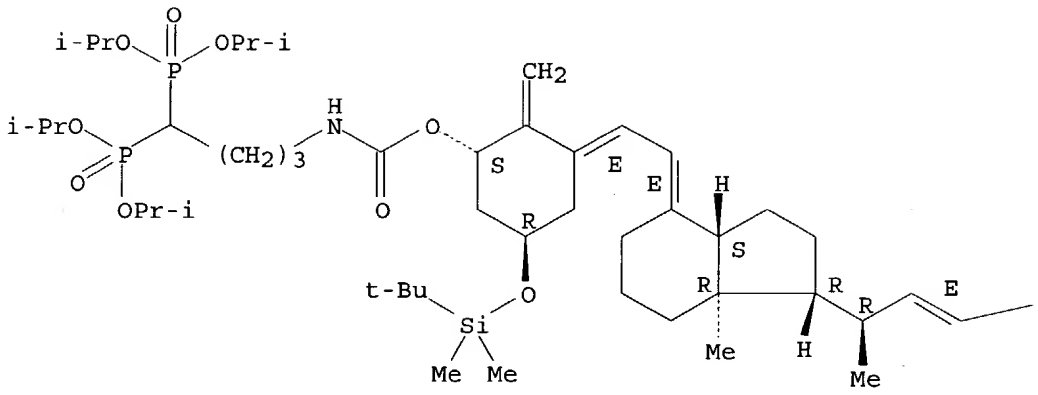
Absolute stereochemistry.
Double bond geometry as shown.



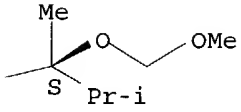
RN 211865-97-3 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



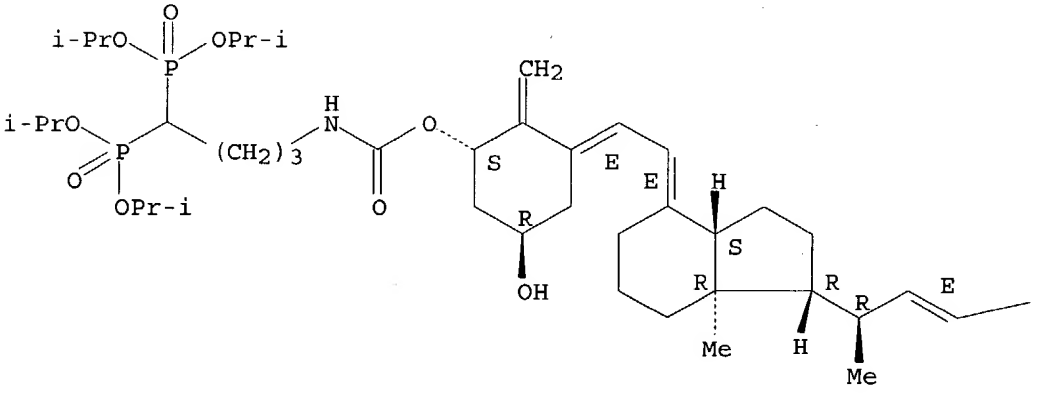
PAGE 1-B



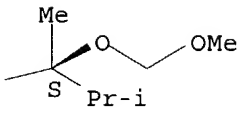
RN 211865-98-4 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, 1-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



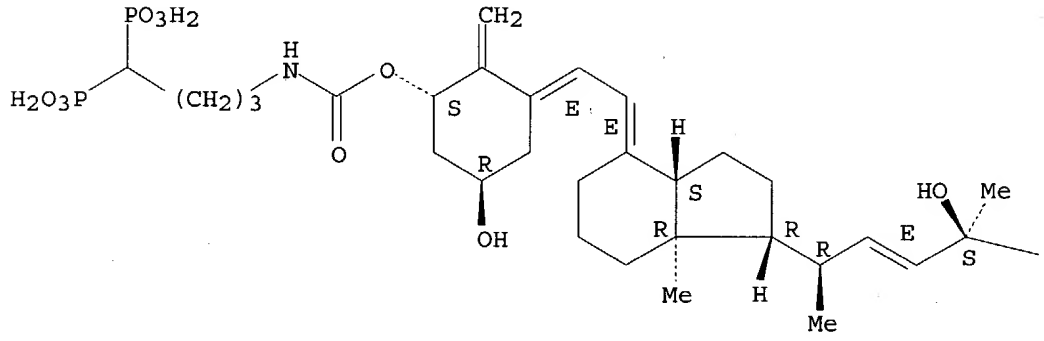
PAGE 1-B



RN 211865-99-5 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

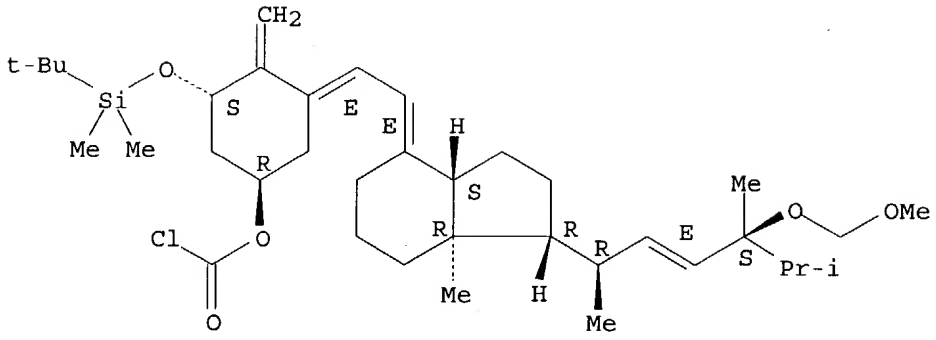


PAGE 1-B

Pr-i

RN 211866-01-2 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, carbonochloridate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

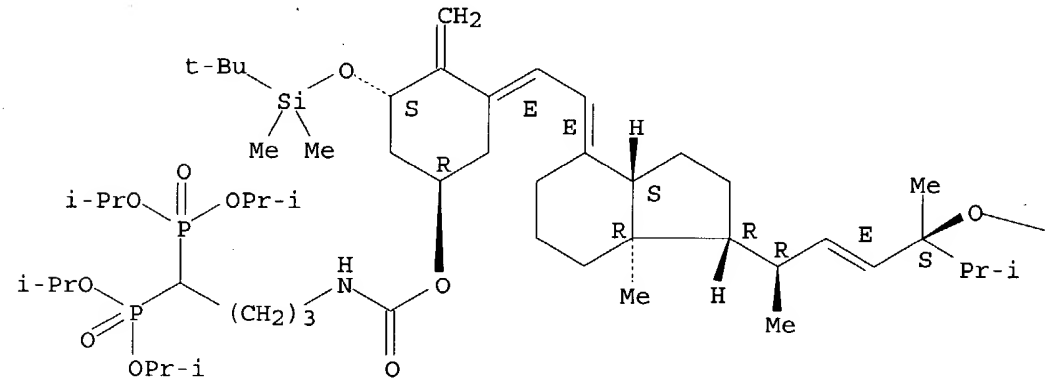
Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-02-3 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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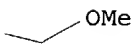
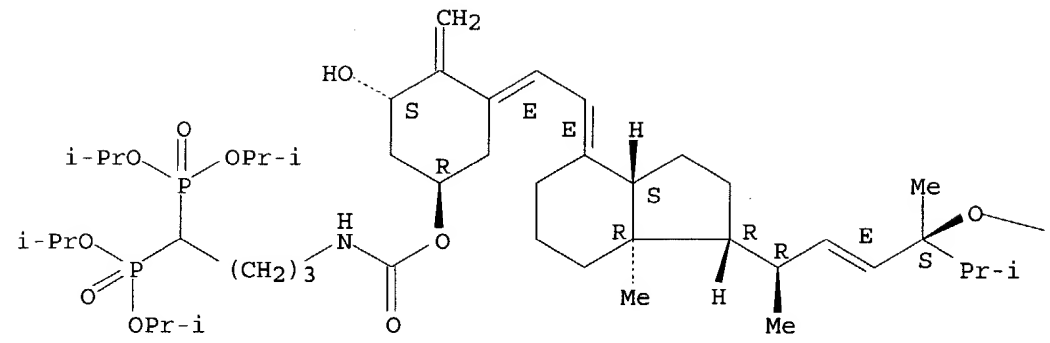


RN 211866-03-4 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, 3-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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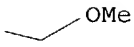
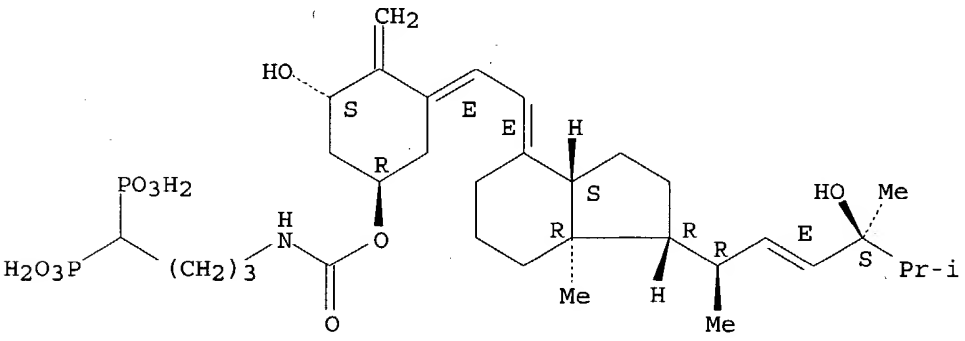


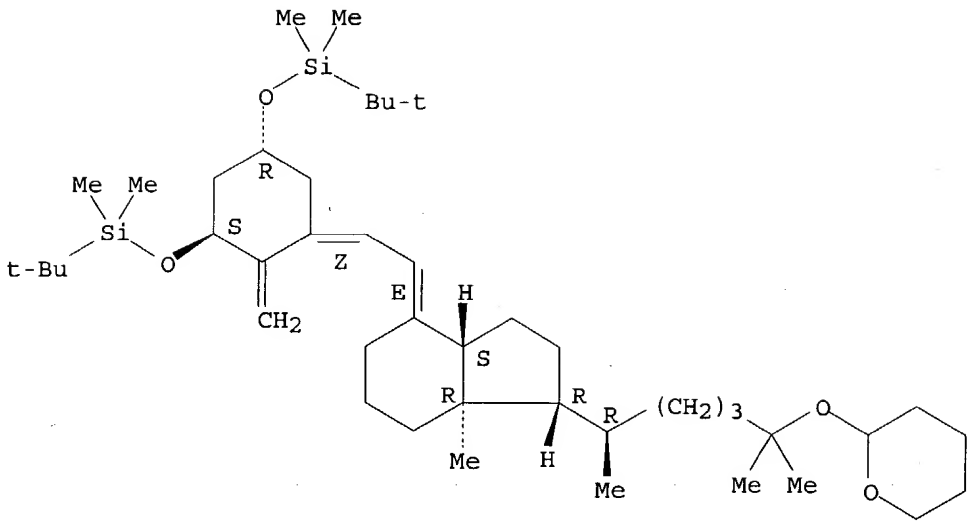
RN 211866-04-5 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



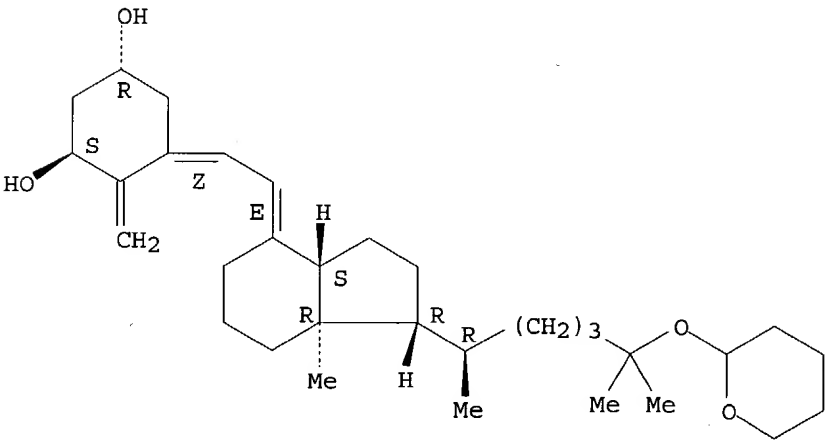
RN 211866-07-8 USPATFULL
CN Silane, [[(1α,3β,5Z,7E)-25-[(tetrahydro-2H-pyran-2-yl)oxy]-9,10-secocholesta-5,7,10(19)-triene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



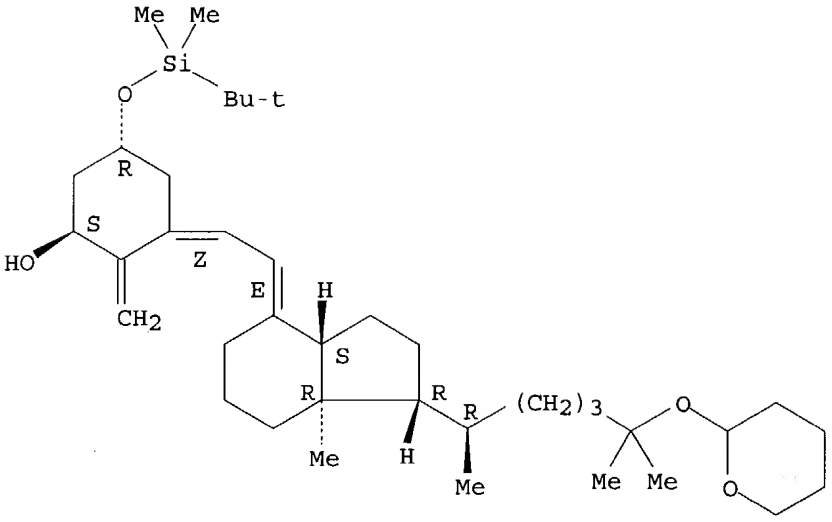
RN 211866-08-9 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



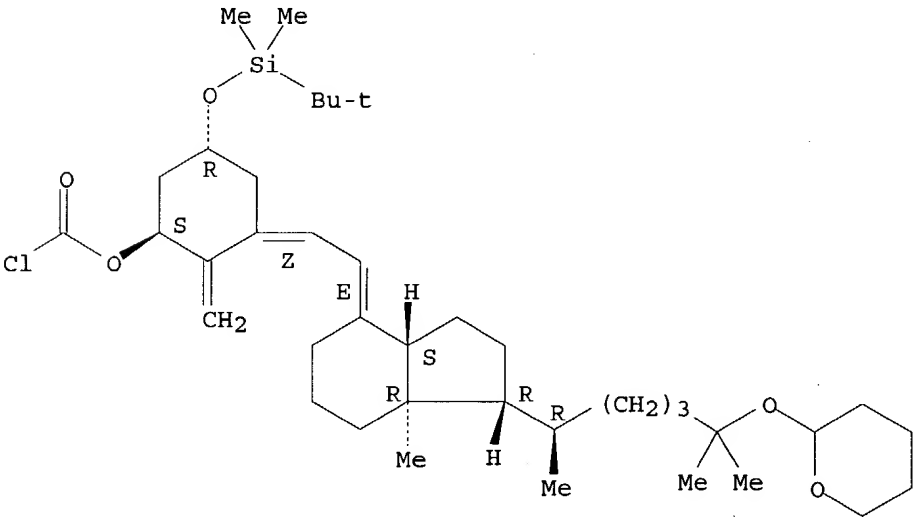
RN 211866-09-0 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-11-4 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, carbonochloridate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-12-5 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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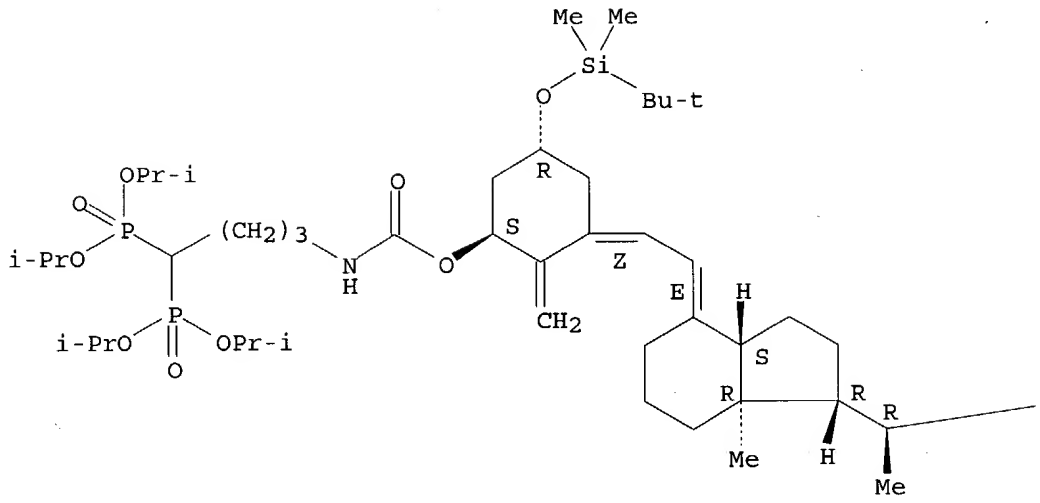

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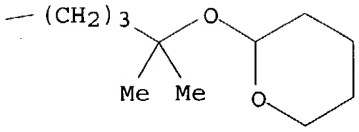

RN 211866-13-6 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, 1-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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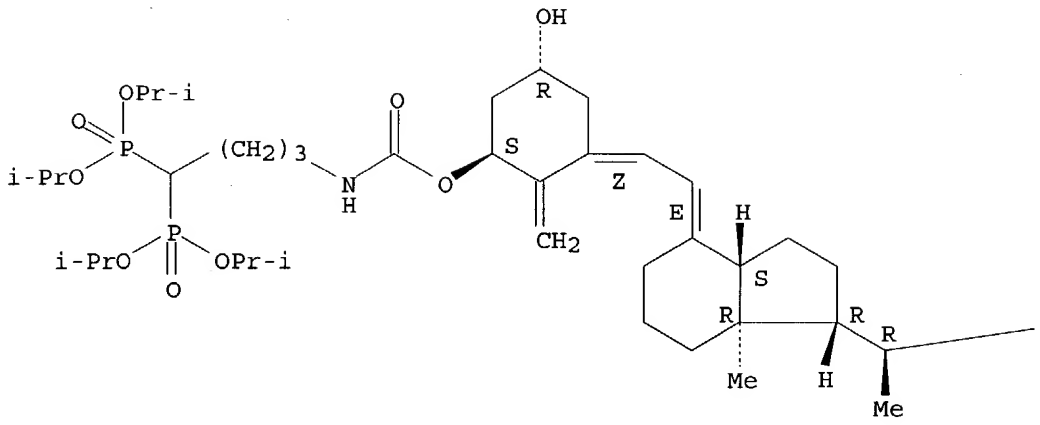

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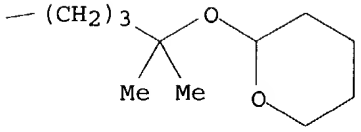
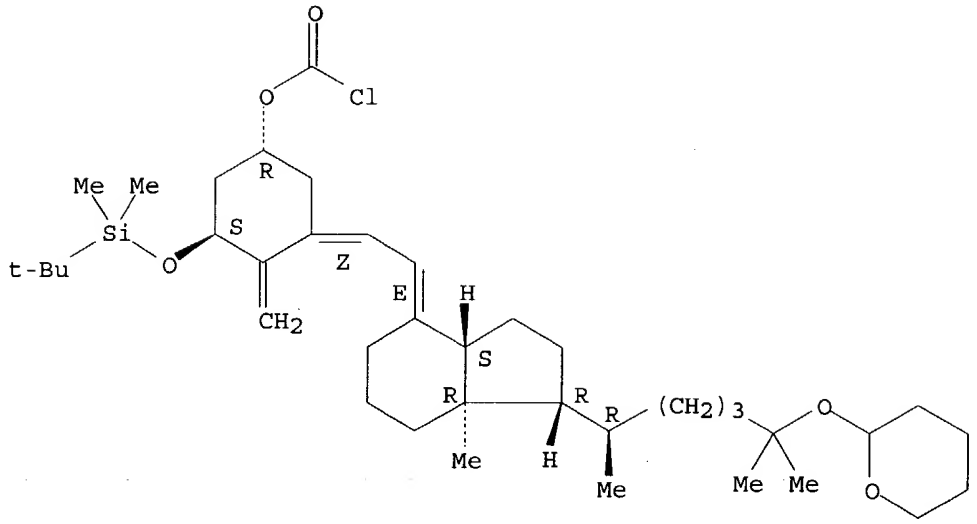


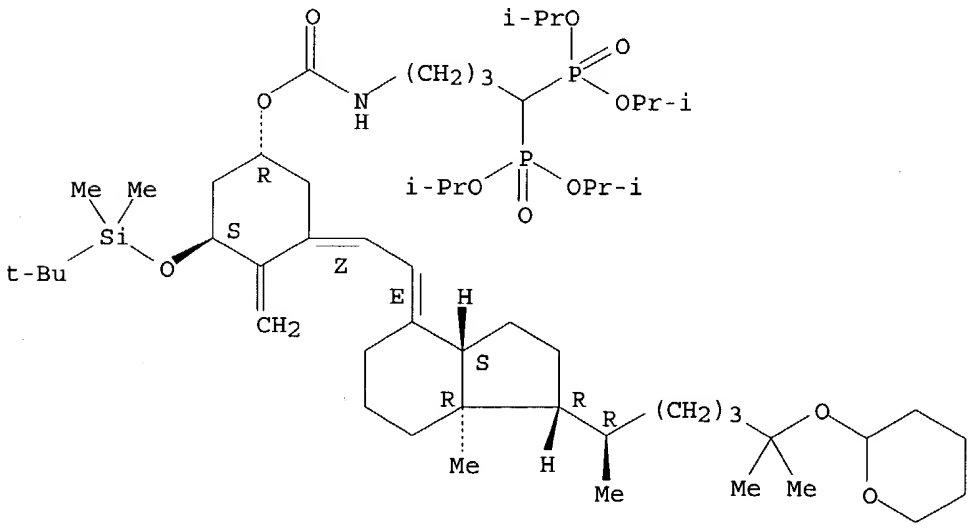
RN 211866-15-8 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, carbonochloridate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



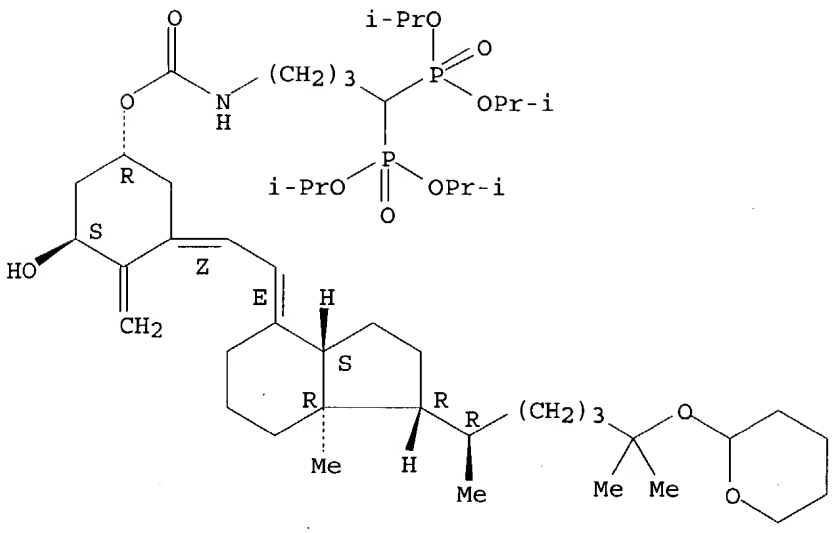
RN 211866-16-9 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



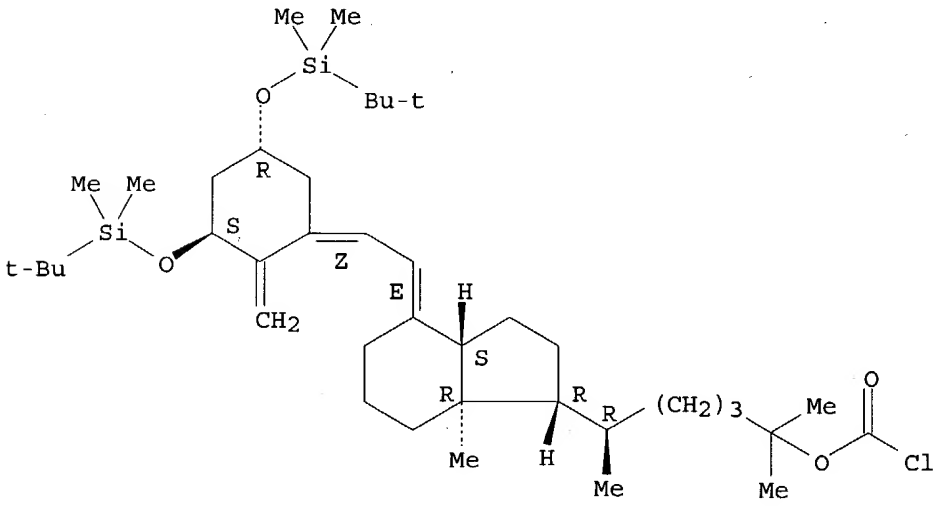
RN 211866-17-0 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, 3-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-19-2 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, carbonochloridate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 557072-52-3 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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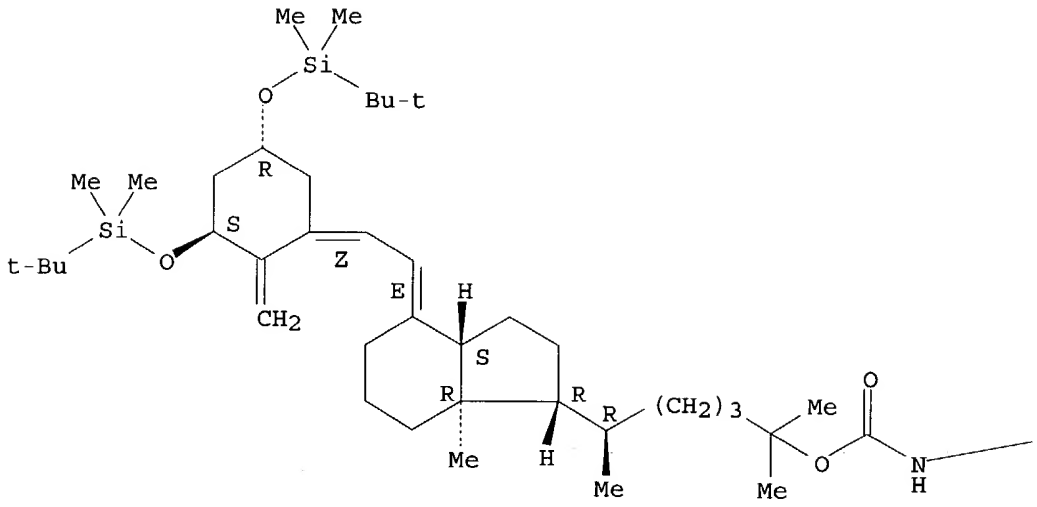

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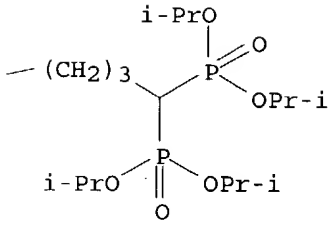

RN 557072-53-4 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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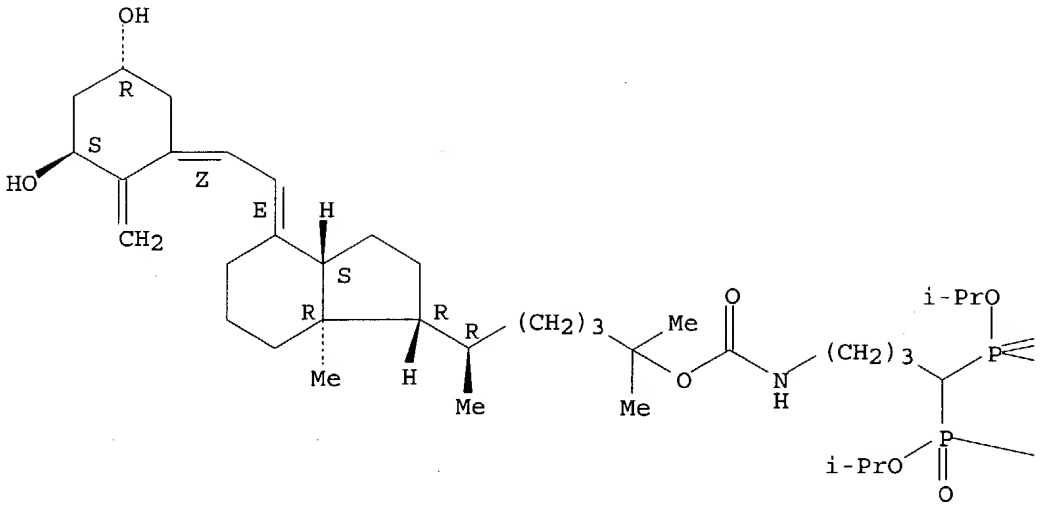

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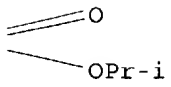
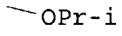
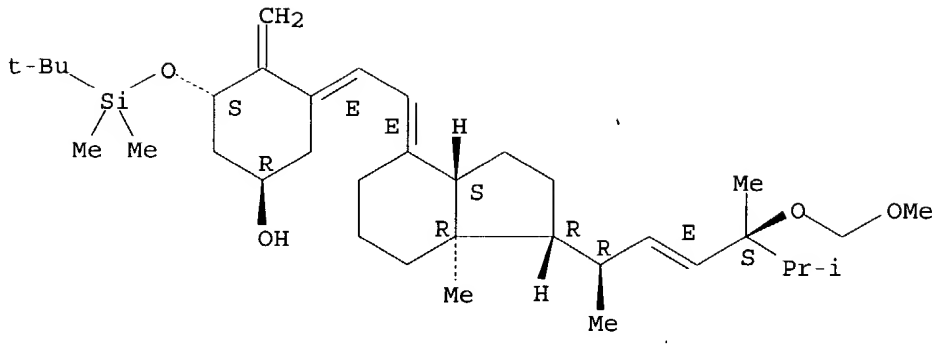




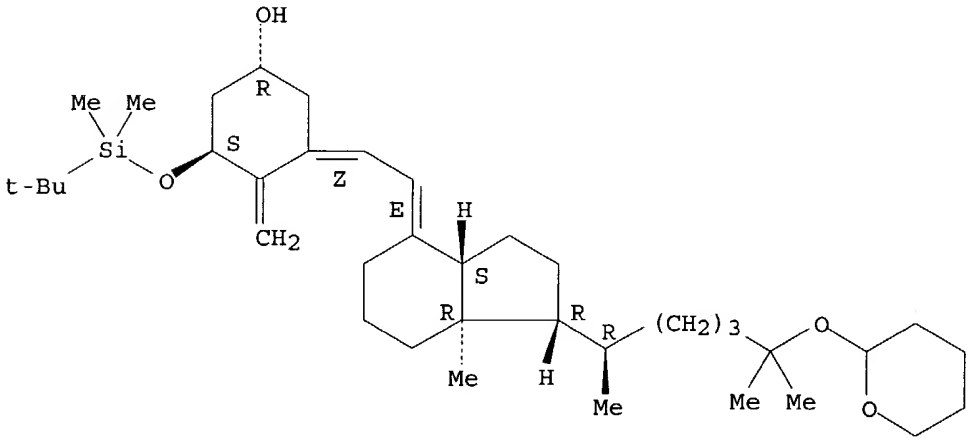
IT **211865-95-1P**
(targeted therapeutic delivery of vitamin D compds.)
RN 211865-95-1 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



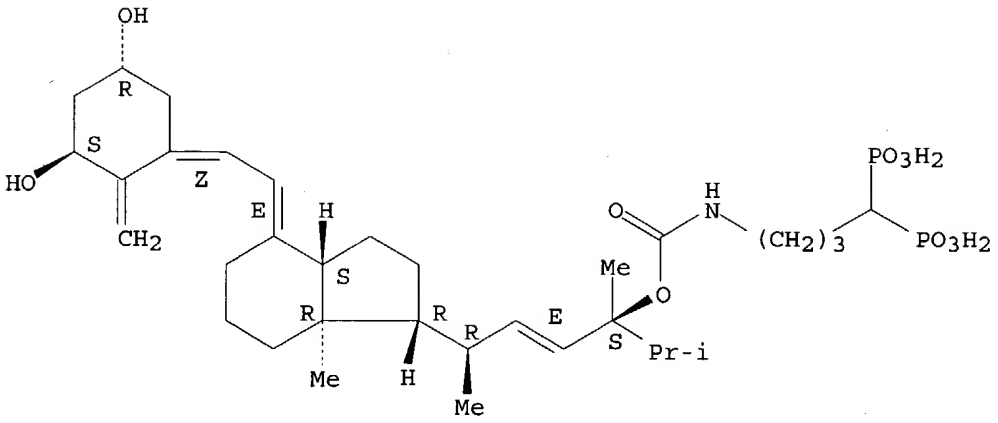
IT **211866-10-3P**
(targeted therapeutic delivery of vitamin D compds.)
RN 211866-10-3 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **211865-91-7P 211866-00-1P 211866-05-6P**
211866-14-7P 211866-18-1P 557072-54-5P
(targeted therapeutic delivery of vitamin D compds.)
RN 211865-91-7 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-00-1 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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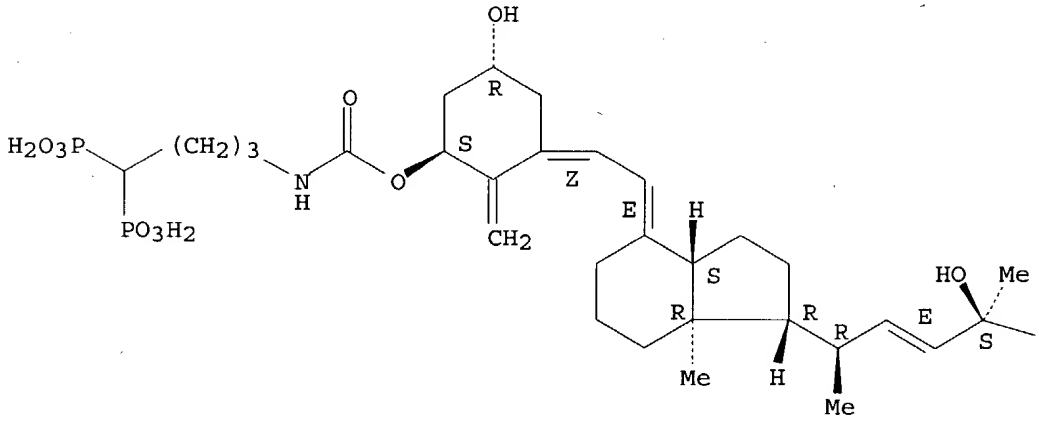

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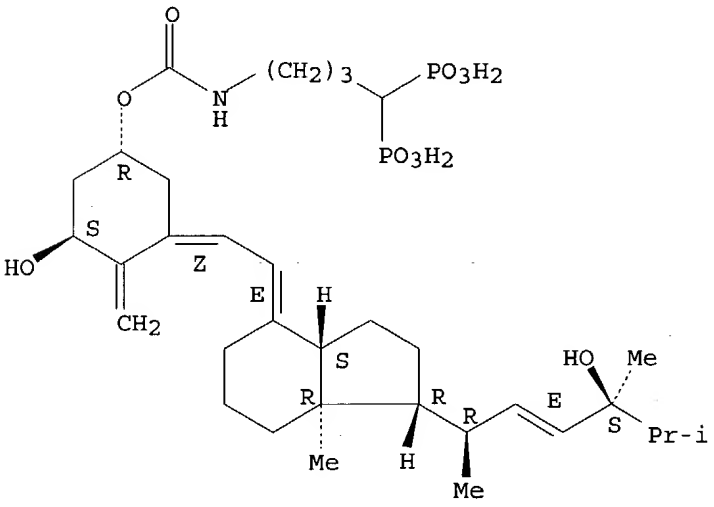
Pr-i

RN 211866-05-6 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-14-7 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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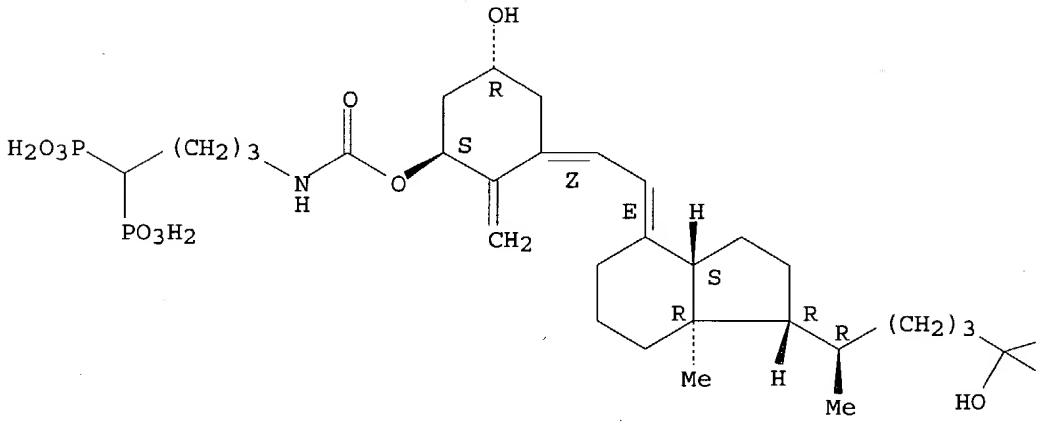

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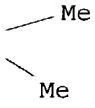
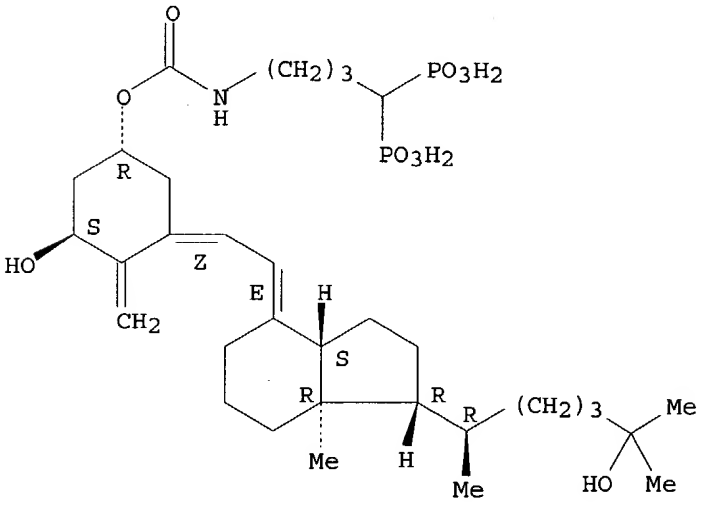


RN 211866-18-1 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 557072-54-5 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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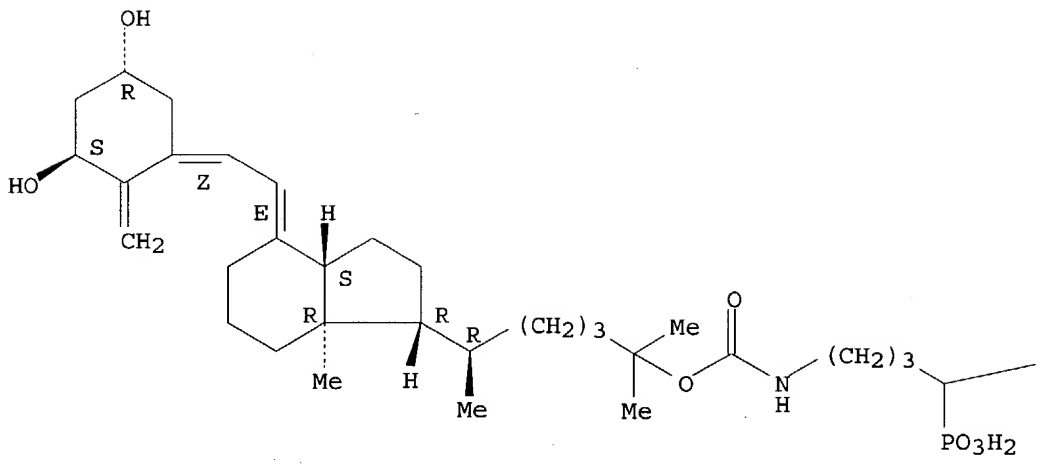

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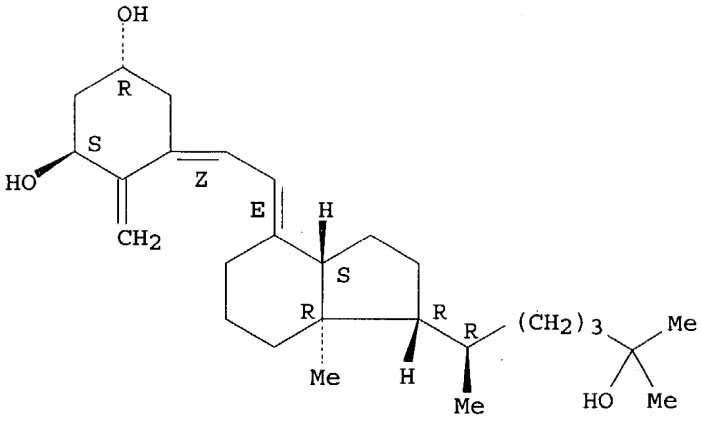
—PO_3H_2

IT **32222-06-3**, 1α,25-Dihydroxyvitamin D3 **40391-99-9** **41294-56-8**, 1α-Hydroxyvitamin D3 **54573-75-0**, 1α-Hydroxyvitamin D2 **60133-18-8**, 1α,25-Dihydroxyvitamin D2 **66376-36-1**, Alendronate **83805-11-2**, Falecalcitriol **103909-75-7**, Maxacalcitol **105462-24-6** **112965-21-6**, Calcipotriol **114084-78-5**, Ibandronate **118072-93-8**, Zoledronate **124043-51-2**, 1α,24-Dihydroxyvitamin D2 **131249-38-2**, 1α,25-Dihydroxyvitamin D4 **131918-61-1**, Paricalcitol **134404-52-7**, Seocalcitol **157893-62-4**, 1α,24-Dihydroxyvitamin D4
(targeted therapeutic delivery of vitamin D compds.)

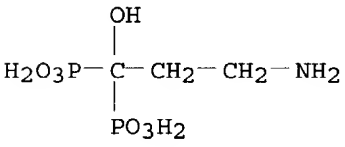
RN 32222-06-3 USPATFULL

CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

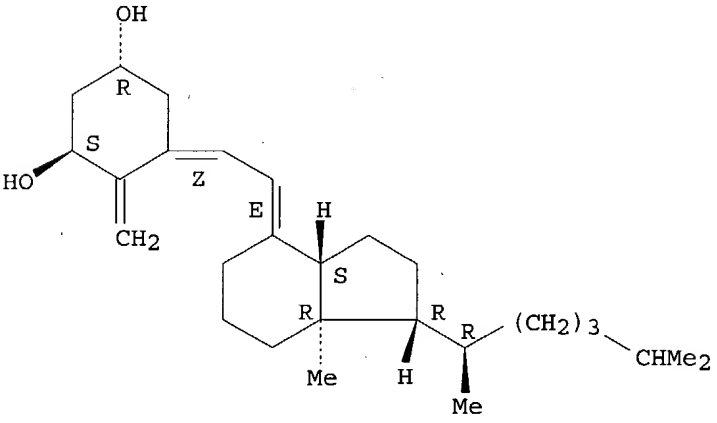


RN 40391-99-9 USPATFULL
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)



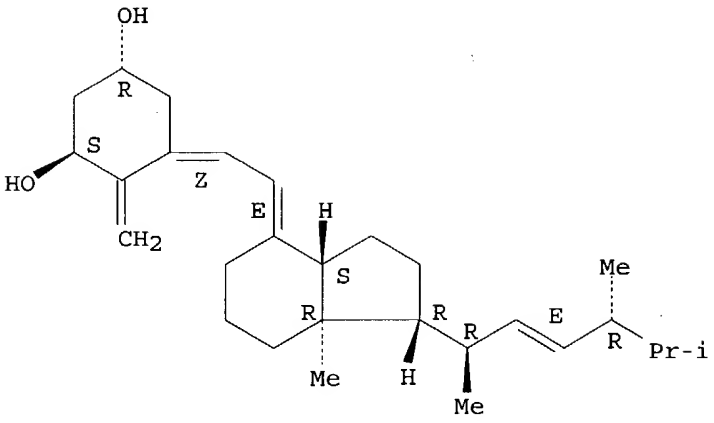
RN 41294-56-8 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



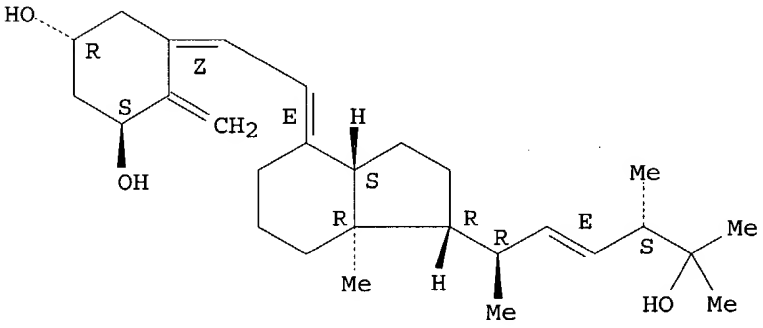
RN 54573-75-0 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol,
(1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

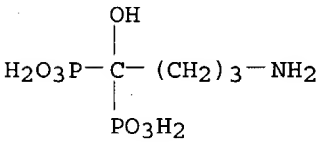


RN 60133-18-8 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,25-triol, (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

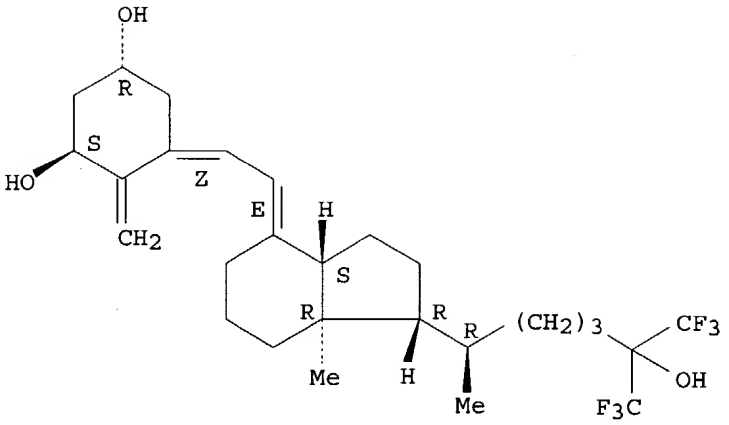


RN 66376-36-1 USPATFULL
CN Phosphonic acid, (4-amino-1-hydroxybutylidene)bis- (9CI) (CA INDEX NAME)



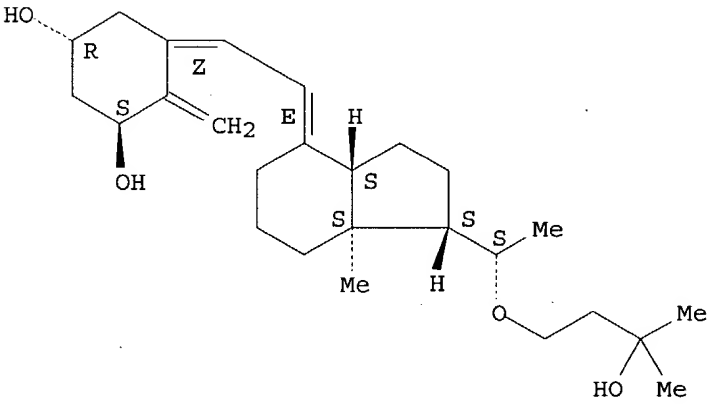
RN 83805-11-2 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 26,26,26,27,27,27-hexafluoro-, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

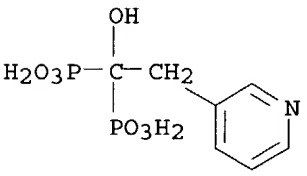


RN 103909-75-7 USPATFULL
CN 1,3-Cyclohexanediol, 4-methylene-5-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3S,5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

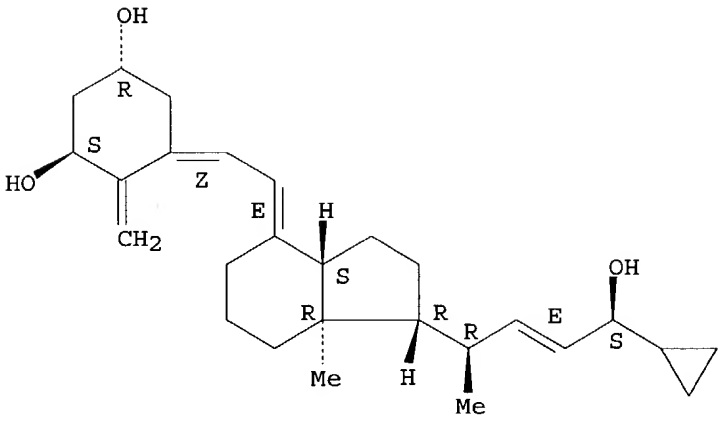


RN 105462-24-6 USPATFULL
CN Phosphonic acid, [1-hydroxy-2-(3-pyridinyl)ethylidene]bis- (9CI) (CA INDEX NAME)

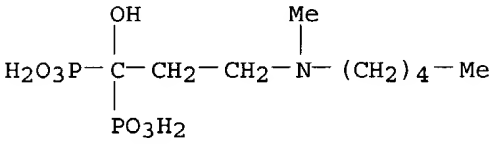


RN 112965-21-6 USPATFULL
CN 9,10-Secochola-5,7,10(19),22-tetraene-1,3,24-triol, 24-cyclopropyl-, (1α,3β,5Z,7E,22E,24S)- (9CI) (CA INDEX NAME)

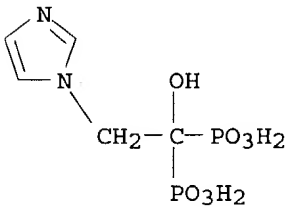
Absolute stereochemistry.
Double bond geometry as shown.



RN 114084-78-5 USPATFULL
CN Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene]bis- (9CI) (CA INDEX NAME)

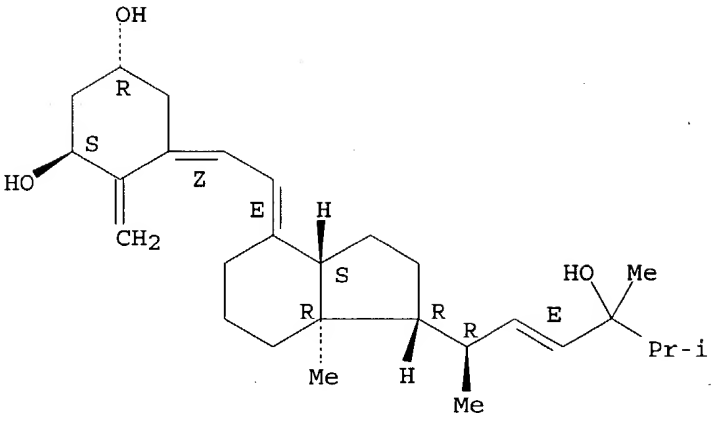


RN 118072-93-8 USPATFULL
CN Phosphonic acid, [1-hydroxy-2-(1H-imidazol-1-yl)ethylidene]bis- (9CI) (CA INDEX NAME)



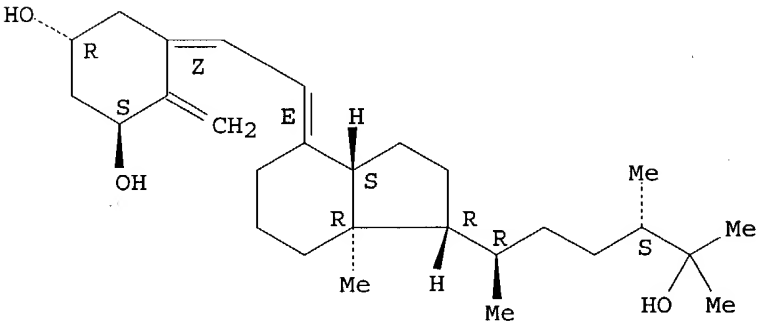
RN 124043-51-2 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, (1α,3β,5Z,7E,22E,24ξ)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



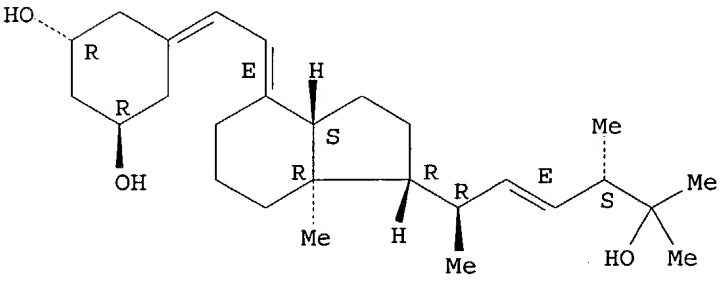
RN 131249-38-2 USPATFULL
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



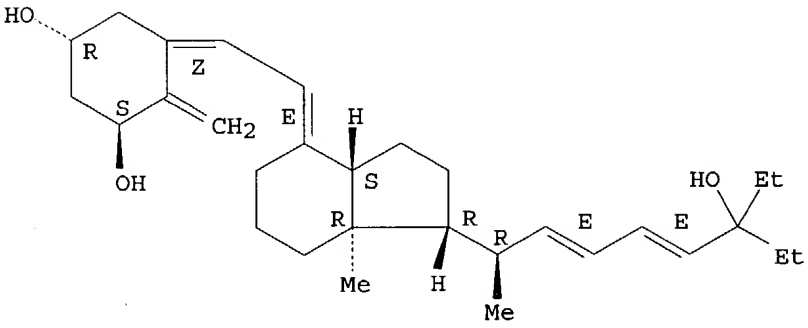
RN 131918-61-1 USPATFULL
CN 19-Nor-9,10-secoergosta-5,7,22-triene-1,3,25-triol, (1α,3β,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



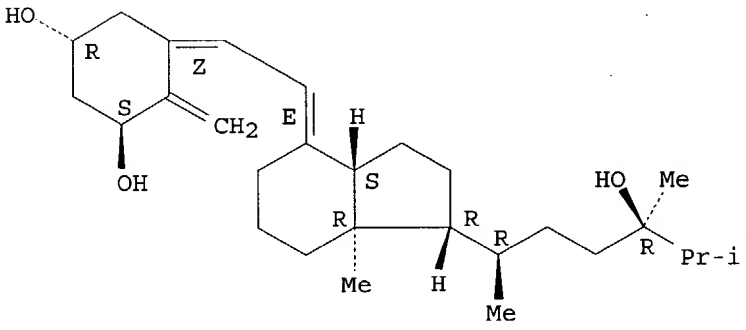
RN 134404-52-7 USPATFULL
CN 1,3-Cyclohexanediol, 5-[(2E)-[(1R,3aS,7aR)-1-[(1R,2E,4E)-6-ethyl-6-hydroxy-1-methyl-2,4-octadienyl]octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-4-methylene-, (1R,3S,5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 157893-62-4 USPATFULL
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

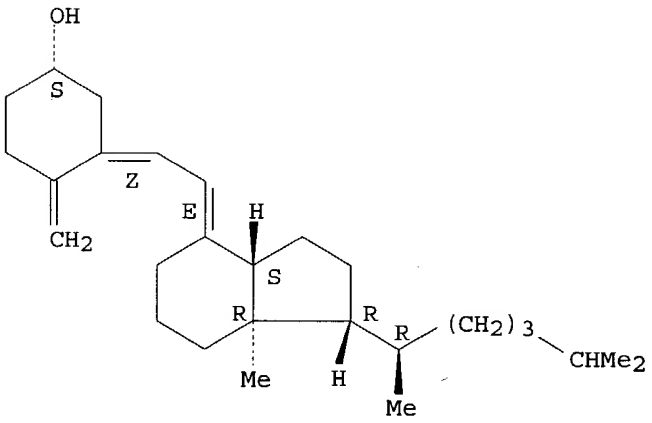


L40 ANSWER 2 OF 6 USPATFULL on STN
AN 2002:325851 USPATFULL
TI Response element compositions and assays employing same
IN Sucov, Henry M., San Diego, CA, United States
Evans, Ronald M., La Jolla, CA, United States
Umesono, Kazuhiko, La Jolla, CA, United States
PA The Salk Institute for Biological Studies, La Jolla, CA, United States
(U.S. corporation)
PI US 6492137 B1 20021210
AI US 1991-672530 19910319 (7) <--
RLI Continuation-in-part of Ser. No. US 1989-438757, filed on 16 Nov 1989,
now patented, Pat. No. US 5091518
DT Utility
FS GRANTED
EXNAM Primary Examiner: McKelvey, Terry
LREP Reiter, Stephen E., Foley & Lardner
CLMN Number of Claims: 32
ECL Exemplary Claim: 1
DRWN 12 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 1395
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB DNA segments have been discovered, and characterized by sequence, which
are response elements operative to confer responsiveness to ligands for
several members of the steroid/thyroid superfamily of receptors, for the

transcriptional activation and/or repression of promoters in cells. By using transcriptional control regions comprising response elements of the present invention in combination with a functional promoter, it is now possible to provide recombinant DNA vectors containing a gene, the transcription (and, thereby, also expression) of which is under the control of a promoter, the transcriptional activity of which is responsive to ligands for members of the steroid/thyroid superfamily of receptors.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AI US 1991-672530 19910319 (7) <--
DETD . . . of mouse mammary tumor virus, Herpes simplex thymidine kinase (tk) promoter, basal Simian virus SV-40 promoter, the Drosophila alcohol dehydrogenase (**ADH**) promoter, and the like. Presently preferred are promoters which require a response element for activity.
IT **67-97-0**, Vitamin D3 6893-02-3, Triiodothyronine
(RARE-containing promoter transactivation by; identification and characterization of steroid/thyroid hormone response elements and use thereof in drug screening)
IT **67-97-0**, Vitamin D3
(RARE-containing promoter transactivation by; identification and characterization of steroid/thyroid hormone response elements and use thereof in drug screening)
RN 67-97-0 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L40 ANSWER 3 OF 6 USPATFULL on STN
AN 1999:37090 USPATFULL
TI Therapeutic methods utilizing naturally derived bio-active complexes and delivery systems therefor
IN Danielov, Michael M., 98-25 65th Rd., Apt. 2E, Rego Park, NY, United States 11374
PA Danielov, Michael M., Rego Park, NY, United States (U.S. individual)
PI US 5885974 19990323
AI US 1994-350234 19941206 (8) <--
DT Utility
FS Granted
EXNAM Primary Examiner: Criares, Theodore J.
LREP Helfgott & Karas, P.C.
CLMN Number of Claims: 10
ECL Exemplary Claim: 1

DRWN 30 Drawing Figure(s); 30 Drawing Page(s)
LN.CNT 2958
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods are disclosed for correcting biological information transfer in a patient in need of such therapy which comprise administration to a patient of a composition comprising a therapeutically effective amount of a biocomplex comprising at least one bioactive agent from each of the three informational blocks of biological information transfer, each agent being present in an amount sufficient to correct the biological information transfer of the patient under treatment and resulting in the resumption of normal cell metabolism, said amount being less than the buffering amount of said agent; together with a carrier therefor.

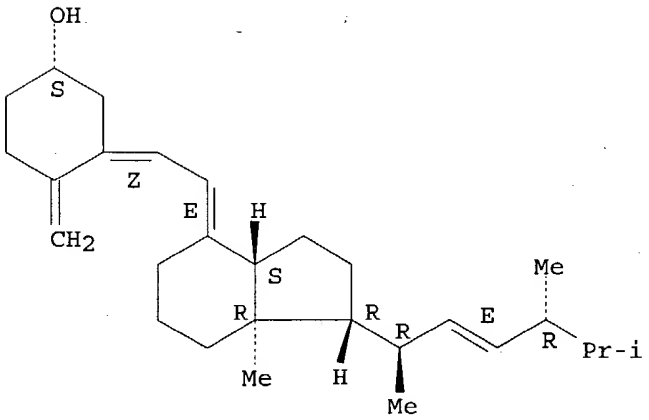
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AI US 1994-350234 19941206 (8) <--
DETD 2. Vasopressin (**ADH**) was determined using the kits Vasopressin RIA (Buhlman Labor, Switzerland);
IT **50-14-6**, Ergocalciferol 50-23-7, Hydrocortisone 50-28-2, β-Estradiol, biological studies 50-81-7, L-Ascorbic acid, biological studies 51-61-6, Dopamine, biological studies 52-39-1, Aldosterone 52-89-1, L-Cysteine hydrochloride 53-59-8, β-NADP 53-84-9, β-NAD 54-47-7, Pyridoxal-5-phosphate 55-31-2, Epinephrine hydrochloride 56-65-5, Adenosine triphosphate, biological studies 56-81-5D, 1,2,3-Propanetriol, 1,2-diacyl derivs. 56-89-3, L-Cystine, biological studies 57-11-4, Octadecanoic acid, biological studies 57-83-0, Progesterone, biological studies 57-87-4, Ergosterol 57-88-5, Cholesterol, biological studies 58-56-0, Pyridoxine hydrochloride 58-85-5, Biotin 58-95-7, α-Tocopherol acetate 59-30-3, Folic acid, biological studies 60-18-4, L-Tyrosine, biological studies 60-33-3, 9,12-Octadecadienoic acid (Z,Z)-, biological studies 63-91-2, L-Phenylalanine, biological studies 65-71-4, Thymine 66-22-8, Uracil, biological studies 67-03-8, Thiamine hydrochloride 71-30-7, Cytosine 73-22-3, L-Tryptophan, biological studies 73-24-5, Adenine, biological studies 73-40-5, Guanine 79-81-2, Retinol palmitate 85-61-0, Coenzyme A, biological studies 86-01-1, Guanosine triphosphate 96-26-4, Dihydroxyacetone 98-92-0, Nicotinamide 112-85-6, Behenic acid 113-79-1, Arginine vasopressin 117-39-5, Quercetin 122-32-7, Triolein 123-33-1, Maleic hydrazide 135-16-0, Tetrahydrofolic acid 137-08-6, Pantothenic acid hemicalcium salt 145-42-6, Sodium taurocholate 154-87-0, Cocarboxylase 329-56-6, Arterenol hydrochloride 361-09-1, Sodium cholate 363-24-6, Prostaglandin E2 463-40-1, Linolenic acid 481-39-0, Juglone 506-21-8, Linolelaidic acid 506-30-9, Arachidic acid 537-40-6, Trilinolein 551-11-1, Prostaglandin F2α 555-43-1, Tristearin 606-68-8 620-64-4, Triarachidin 745-65-3, Prostaglandin E1 863-57-0, Sodium glycocholate 987-65-5, Adenosine triphosphate disodium salt 1105-02-8, Corticosterone-21-sulfate 1184-16-3 1340-08-5, Vitamin P 1407-47-2, Angiotensin 1731-94-8, Nonadecanoic acid methyl ester 2566-90-7 2644-64-6, Dipalmitoylphosphatidylcholine 2752-99-0, Trierucin 4537-76-2, Distearoylphosphatidylethanolamine 4537-77-3, Dipalmitoylphosphatidylglycerol 4537-78-4, Distearoylphosphatidylglycerol 4539-70-2, Distearoylphosphatidylcholine 4999-79-5, Estradiol-3-sulfate sodium salt 5681-36-7, Dipalmitoylphosphatidylethanolamine 6064-90-0, Heneicosanoic acid methyl ester 6610-25-9, Arachidonic acid sodium salt 7235-40-7, β-Carotene 7665-99-8, Cyclic GMP 9001-62-1, Lipase 9002-60-2, Adrenocorticotropic hormone, biological studies 9002-60-2D, Adrenocorticotropic hormone, 1-24 fragment 9002-64-6, Parathyroid hormone 9002-64-6D, Parathyroid hormone, 1-36 fragment 9002-67-9, Luteinizing hormone 9002-68-0, Follicle-stimulating hormone 9002-71-5, Thyrotropic hormone 9002-72-6, Somatotropin 9004-10-8, Insulin, biological studies 9004-61-9, Hyaluronic acid 9005-49-6, Heparin sulfate, biological studies 9007-12-9, Thyrocalcitonin

9007-92-5, Glucagon, biological studies 9015-73-0 9026-43-1, Protein kinase 9041-08-1, Heparin sodium salt 10417-94-4 **10529-43-8**, Cholecalciferol sulfate 11000-17-2, Vasopressin 11061-68-0, Human insulin 11128-99-7, Angiotensin II 12629-01-5, Human growth hormone 13487-42-8 14465-68-0 15866-84-9, Adenosine triphosphate calcium salt 18641-57-1, Tribehenin 18656-38-7, Dimyristoylphosphatidylcholine 20255-95-2, Dimyristoylphosphatidylethanolamine 20290-75-9 22251-85-0, Flavin mononucleotide sodium salt 24967-93-9, Chondroitin sulfate A 24967-94-0, Dermatan sulfate 25322-46-7, Chondroitin sulfate C 26536-13-0, Trinonadecanoin 27964-99-4, Poly-D-lysine hydrobromide 28845-86-5, 13,16,19-Docosatrienoic acid, (Z,Z,Z)- 28874-58-0 35121-78-9, Prostaglandin I2 37221-79-7, Vasoactive intestinal peptide 37377-93-8, β-Lipotropin 37377-93-8D, β-Lipotropin, fragment 37839-81-9, Cyclic AMP sodium salt 40245-60-1, Cyclic GMP sodium salt 41598-07-6, Prostaglandin D2 52910-82-4, Aldosterone-21-hemisuccinate 55672-92-9, Coenzyme A sodium salt 59392-49-3, Gastric inhibitory peptide 60617-12-1, β-Endorphin 60617-12-1D, β-Endorphin, fragment 61361-72-6, Dimyristoylphosphatidylglycerol 61849-14-7, Prostaglandin I2 sodium salt **78392-27-5**, Cholecalciferol sulfate sodium salt 80380-39-8, Tri-11-eicosenoin 85166-31-0, D-myo-Inositol-1,4,5-triphosphate 92216-45-0, D-myo-Inositol-2,4,5-triphosphate 96012-99-6, Guanosine triphosphate lithium salt 99660-95-4 100775-23-3, Corticosterone-21-sulfate potassium salt 108340-81-4, D-myo-Inositol, 1,4,5-tris(dihydrogen phosphate), hexasodium salt 135271-36-2, D-myo-Inositol-1,4,5-triphosphate potassium salt
(bioactive agent-containing biocomplex for correcting biol. information transfer and cell metabolism, and therapeutic use)

IT **50-14-6**, Ergocalciferol **10529-43-8**, Cholecalciferol sulfate **78392-27-5**, Cholecalciferol sulfate sodium salt
(bioactive agent-containing biocomplex for correcting biol. information transfer and cell metabolism, and therapeutic use)

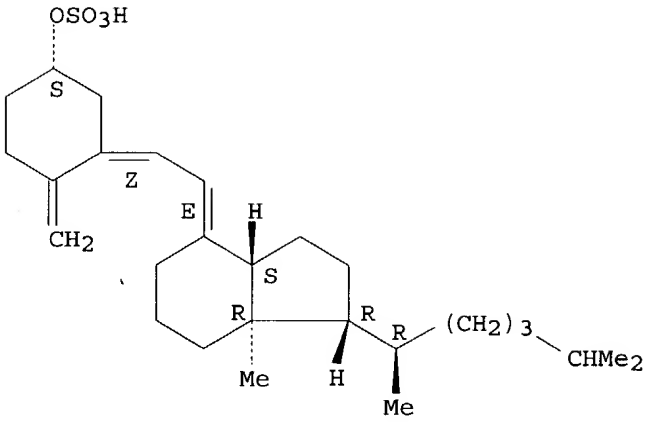
RN 50-14-6 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, (3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



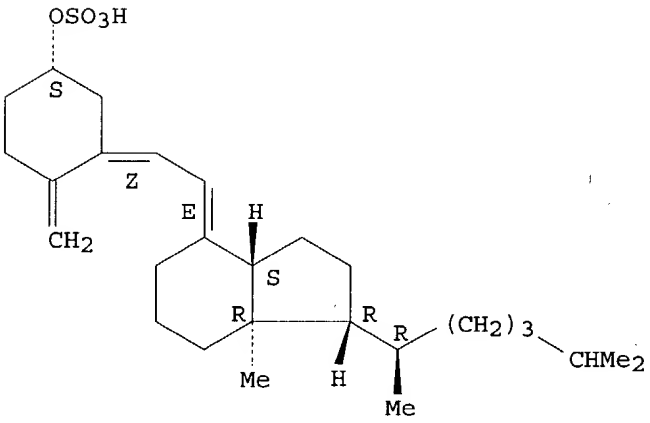
RN 10529-43-8 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, hydrogen sulfate, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 78392-27-5 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, hydrogen sulfate, sodium salt, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

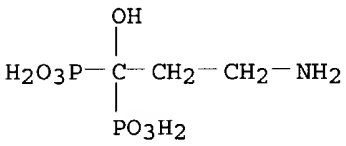


● Na

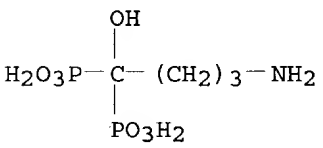
L40 ANSWER 4 OF 6 USPATFULL on STN
AN 89:29924 USPATFULL
TI Treatment of osteoporosis
IN Flora, Lawrence, Fairfield, OH, United States
PA The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)
PI US 4822609 19890418 <--
AI US 1986-906725 19860912 (6) <--
RLI Continuation of Ser. No. US 1984-684542, filed on 21 Dec 1984, now abandoned which is a continuation-in-part of Ser. No. US 1984-605541, filed on 30 Apr 1984, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Schenkman, Leonard
LREP Graff, IV, Milton B., Goldstein, Steven J., Schaeffer, Jack D.
CLMN Number of Claims: 16
ECL Exemplary Claim: 1

DRWN No Drawings
LN.CNT 604
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for treating or preventing osteoporosis is disclosed. Bone cells are synchronized during a bone cell activating period; bone resorption, which normally follows activation, is inhibited using a polyphosphonate; bone formation is allowed to occur in the rest period during which nutrient supplements may be administered to the patient. The method shortens the natural cycle time of bone formation/resorption, resulting in a faster bone build-up.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
PI US 4822609 19890418 <--
AI US 1986-906725 19860912 (6) <--
IT 2809-21-4 10596-23-3 **40391-99-9 66376-36-1**
79778-41-9
(osteoporosis treatment by bone cell-activating agents and)
IT 51-48-9, biological studies 363-24-6 6893-02-3 9002-64-6
16984-48-8, biological studies **19356-17-3 32222-06-3**
(osteoporosis treatment by bone resorption-inhibiting polyphosphonates and)
IT **40391-99-9 66376-36-1**
(osteoporosis treatment by bone cell-activating agents and)
RN 40391-99-9 USPATFULL
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)

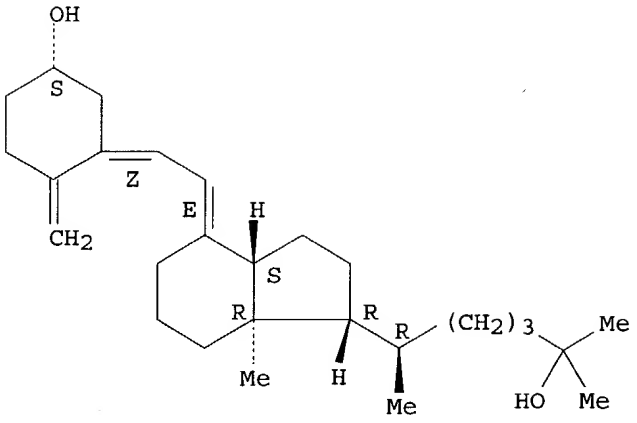


RN 66376-36-1 USPATFULL
CN Phosphonic acid, (4-amino-1-hydroxybutylidene)bis- (9CI) (CA INDEX NAME)



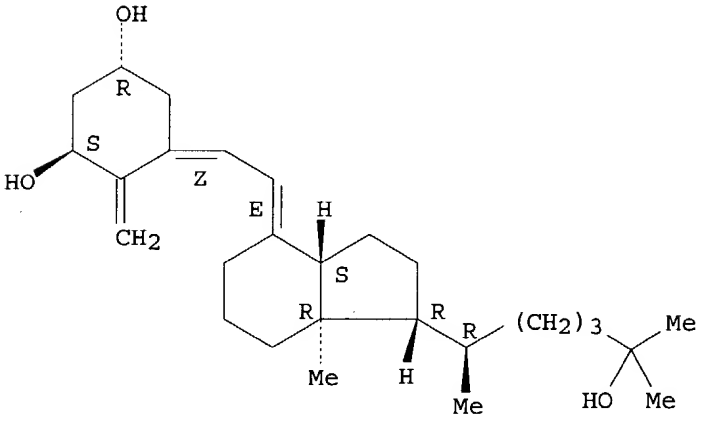
IT **19356-17-3 32222-06-3**
(osteoporosis treatment by bone resorption-inhibiting polyphosphonates and)
RN 19356-17-3 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 32222-06-3 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L40 ANSWER 5 OF 6 USPATFULL on STN
AN 89:19032 USPATFULL
TI Kit for use in the treatment of osteoporosis
IN Uchtman, Vernon A., Cincinnati, OH, United States
PA The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)
PI US 4812311 19890314 <--
AI US 1986-906859 19860912 (6) <--
DCD 20060314
RLI Continuation of Ser. No. US 1984-684560, filed on 21 Dec 1984, now abandoned which is a continuation-in-part of Ser. No. US 1984-605540, filed on 30 Apr 1984, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Schenkman, Leonard
LREP Graff, IV, Milton B., Goldstein, Steven J., Schaeffer, Jack D.
CLMN Number of Claims: 17
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 773

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A kit for use in the treatment of osteoporosis is disclosed. The kit comprises a bone cell activating compound, a bone resorption inhibiting polyphosphonate, and a nutrient supplement or placebo, for sequential administration.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

PI US 4812311 19890314 <--

AI US 1986-906859 19860912 (6) <--

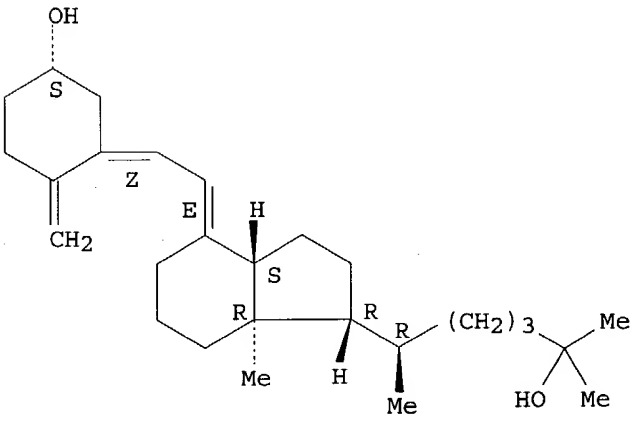
IT 51-48-9, biological studies 363-24-6 1406-16-2 2809-21-4 6893-02-3 7414-83-7 7440-70-2, biological studies 10596-23-3 12583-68-5 13598-36-2D, derivs. 14265-44-2, biological studies 16984-48-8, biological studies **19356-17-3 32222-06-3 40391-99-9 66376-36-1** 79778-41-9
(osteoporosis treatment with, regimen kit for)

IT **19356-17-3 32222-06-3 40391-99-9 66376-36-1**
(osteoporosis treatment with, regimen kit for)

RN 19356-17-3 USPATFULL

CN 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

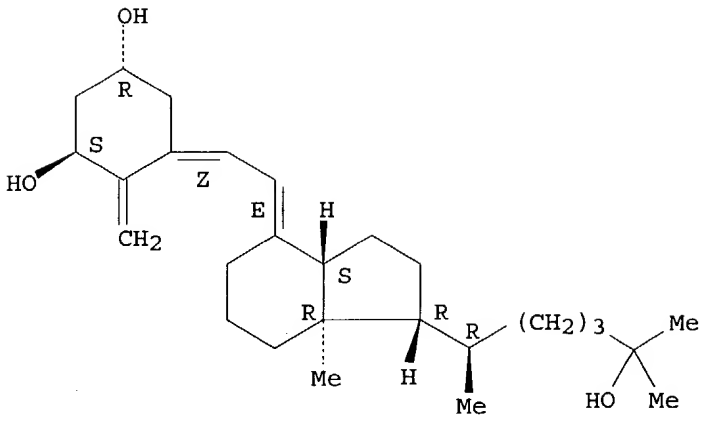
Absolute stereochemistry.
Double bond geometry as shown.



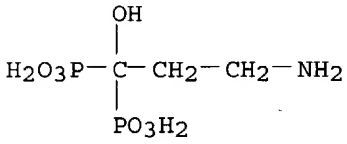
RN 32222-06-3 USPATFULL

CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

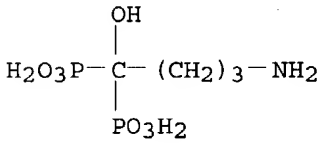
Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



RN 40391-99-9 USPATFULL
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)



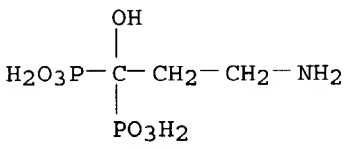
RN 66376-36-1 USPATFULL
CN Phosphonic acid, (4-amino-1-hydroxybutylidene)bis- (9CI) (CA INDEX NAME)



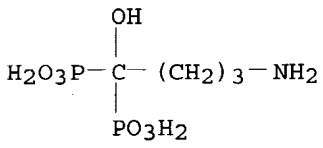
L40 ANSWER 6 OF 6 USPATFULL on STN
AN 89:19025 USPATFULL
TI Treatment of osteoporosis
IN Anderson, Colin, Lambeth, Canada
Flora, Lawrence, Fairfield, OH, United States
PA The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)
PI US 4812304 19890314 <--
AI US 1986-906858 19860912 (6) <--
DCD 20060314
RLI Continuation of Ser. No. US 1984-684541, filed on 21 Dec 1984, now abandoned which is a continuation-in-part of Ser. No. US 1984-605539, filed on 30 Apr 1984, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Schenkman, Leonard
LREP Graff, IV, Milton B., Goldstein, Steven J., Schaeffer, Jack D.
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 619
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for treating or preventing osteoporosis is disclosed. Bone cells are synchronized during a bone cell activating period; bone resorption, which normally follows activation, is inhibited using a polyphosphonate; bone formation is allowed to occur in the rest period during which nutrient supplements may be administered to the patient.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
PI US 4812304 19890314 <--
AI US 1986-906858 19860912 (6) <--
IT 2809-21-4 10596-23-3 **40391-99-9 66376-36-1**
79778-41-9
(bone absorption-inhibiting agent, in osteoporosis treatment)
IT 51-48-9, biological studies 363-24-6 6893-02-3 7414-83-7
7681-49-4, biological studies 9002-64-6 16984-48-8, biological studies **19356-17-3 32222-06-3**
(bone cell-activating agent, in osteoporosis treatment)
IT **40391-99-9 66376-36-1**
(bone absorption-inhibiting agent, in osteoporosis treatment)
RN 40391-99-9 USPATFULL
CN Phosphonic acid, (3-amino-1-hydroxypropylidene)bis- (9CI) (CA INDEX NAME)

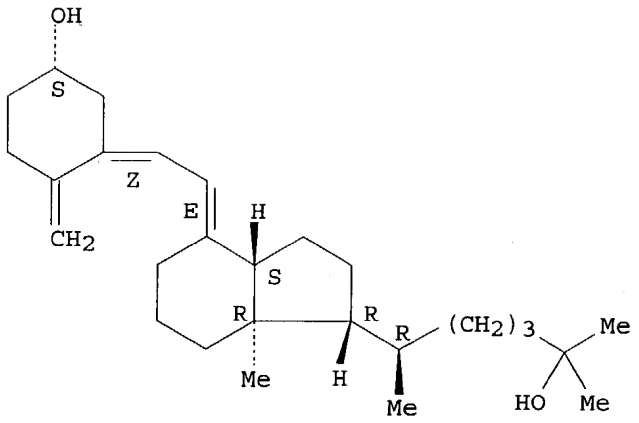


RN 66376-36-1 USPATFULL
CN Phosphonic acid, (4-amino-1-hydroxybutylidene)bis- (9CI) (CA INDEX NAME)



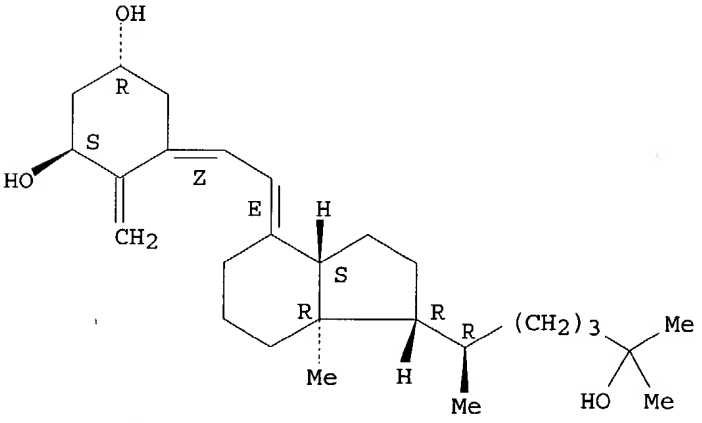
IT **19356-17-3 32222-06-3**
(bone cell-activating agent, in osteoporosis treatment)
RN 19356-17-3 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 32222-06-3 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



=> => s l34 not l40
L41 1 L34 NOT L40

=> d bib abs hitstr

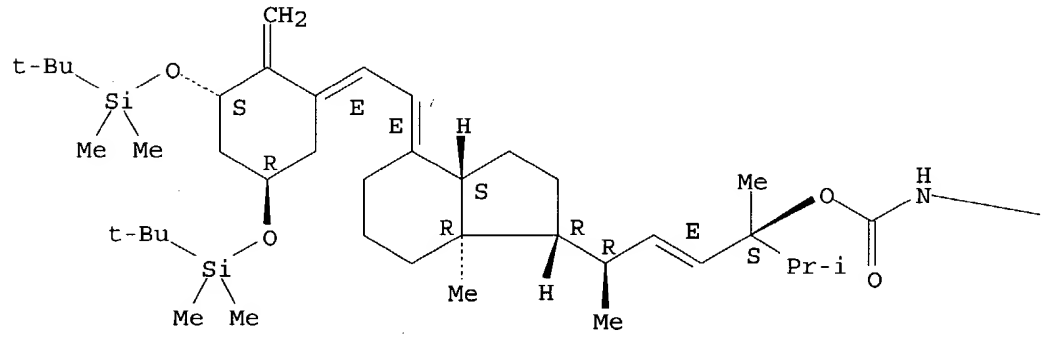
L41 ANSWER 1 OF 1 USPATFULL on STN
AN 2002:250793 USPATFULL
TI Targeted therapeutic delivery of vitamin D compounds
IN Mazess, Richard B., Madison, WI, UNITED STATES
Bishop, Charles W., Madison, WI, UNITED STATES
PI US 2002136731 A1 20020926
AI US 2000-402636 A1 20000426 (9)
WO 1998-US2899 19980213
DT Utility
FS APPLICATION
LREP Teresa J Welch, Michael Best & Friedrich, One South Pinckney Street
Suite 700, PO Box 1806, Madison, WI, 53701-1806
CLMN Number of Claims: 40
ECL Exemplary Claim: 1

DRWN 9 Drawing Page(s)
LN.CNT 1272
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to a conjugate which includes at least one vitamin D moiet thereof and at least one targeting molecule moiety to pharmaceutical compositions of the conjugate. and to methods for using the conjugate for target- specific delivery of vitamin D or analogs thereof to tissues in need thereof. When a particularly preferred form is administered to a patient, the targeting molecule component of the conjugate of this invention seeks out and binds to a tissue of interest, such as bone or tuinor tissue, where the vitamin D has a therapeutic effect.

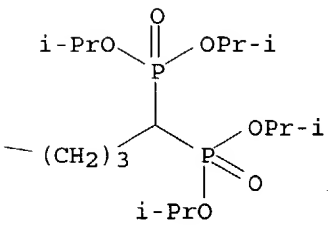
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **211865-88-2P 211865-89-3P 211865-90-6P**
211865-97-3P 211865-98-4P 211865-99-5P
211866-02-3P 211866-03-4P 211866-04-5P
211866-12-5P 211866-13-6P 211866-16-9P
211866-17-0P 211866-20-5P 211866-21-6P
(preparation of vitamin D2 analog-bisphosphonate conjugates for targeted delivery)
RN 211865-88-2 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-24-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

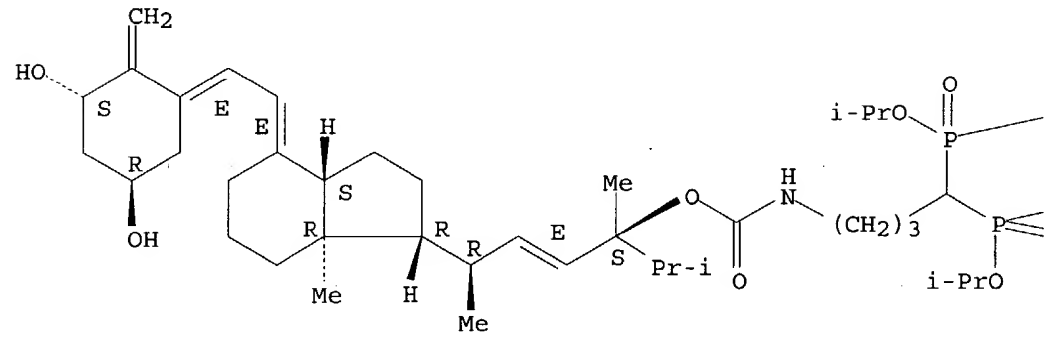


RN 211865-89-3 USPATFULL

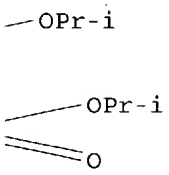
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

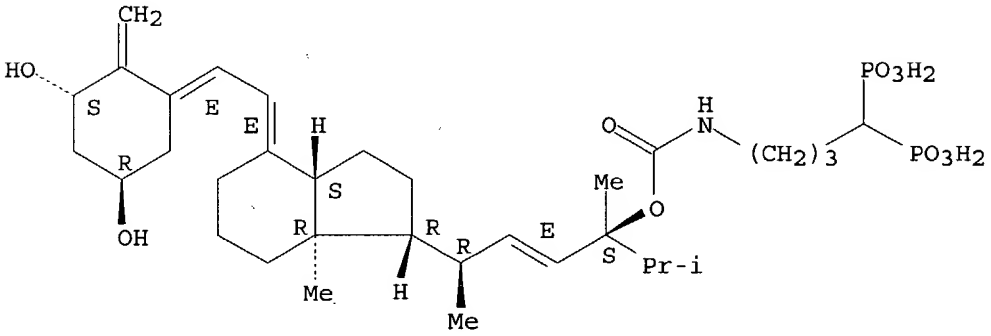


PAGE 1-B



RN 211865-90-6 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate] (9CI) (CA INDEX NAME)

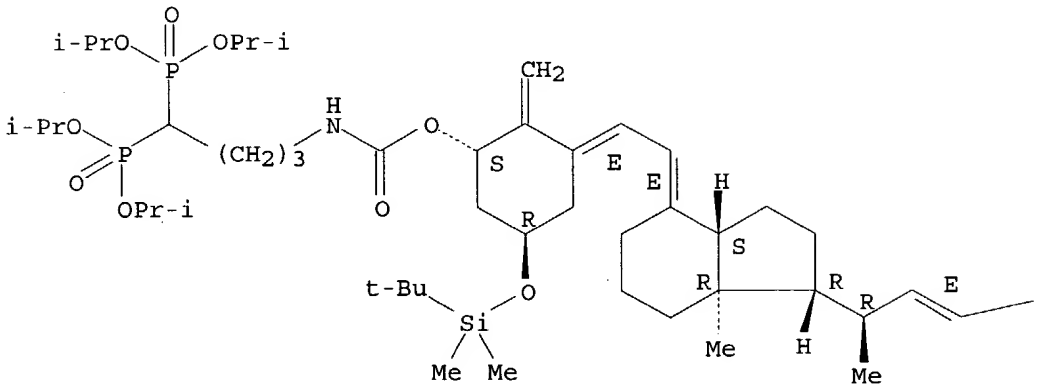
Absolute stereochemistry.
Double bond geometry as shown.



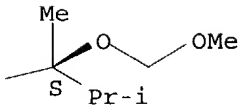
RN 211865-97-3 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



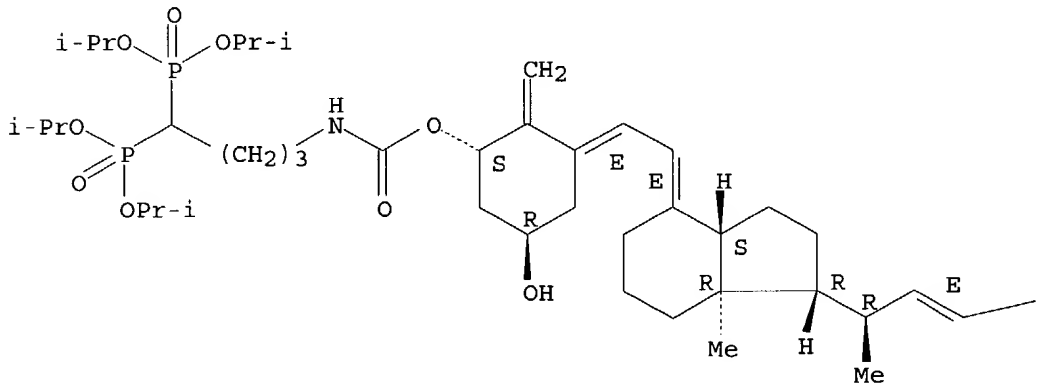
PAGE 1-B



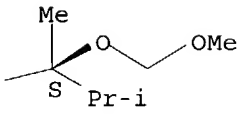
RN 211865-98-4 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, 1-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



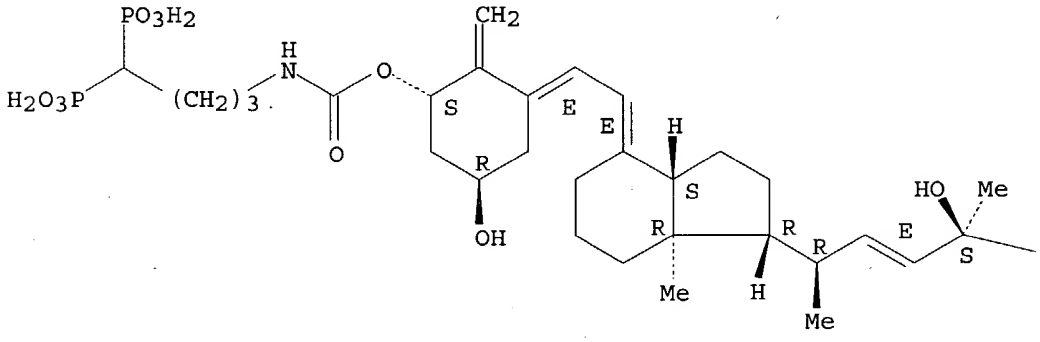
PAGE 1-B



RN 211865-99-5 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



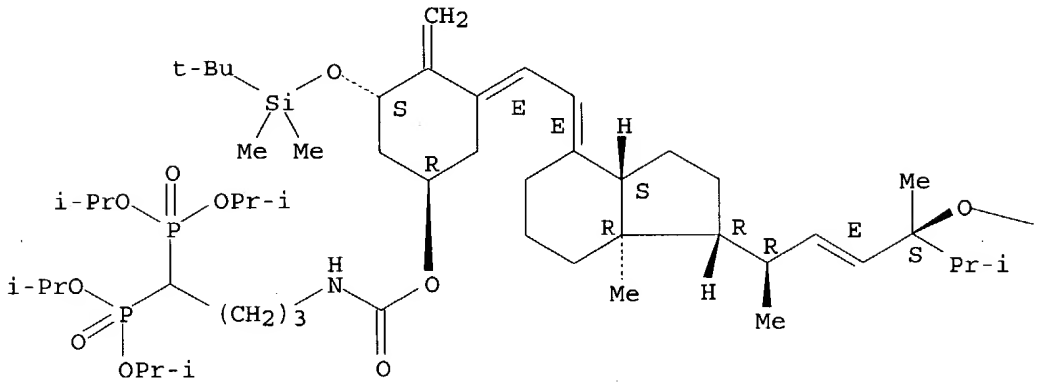
PAGE 1-B

Pr-i

RN 211866-02-3 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-24-(methoxymethoxy)-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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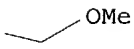
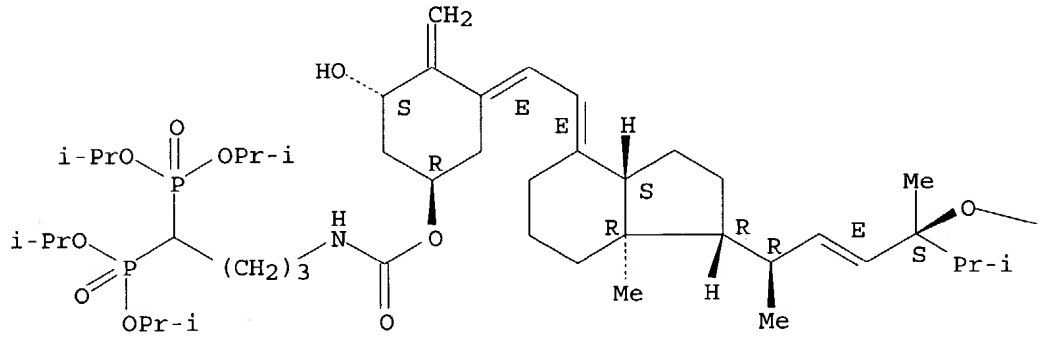


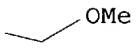
RN 211866-03-4 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3-diol, 24-(methoxymethoxy)-, 3-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

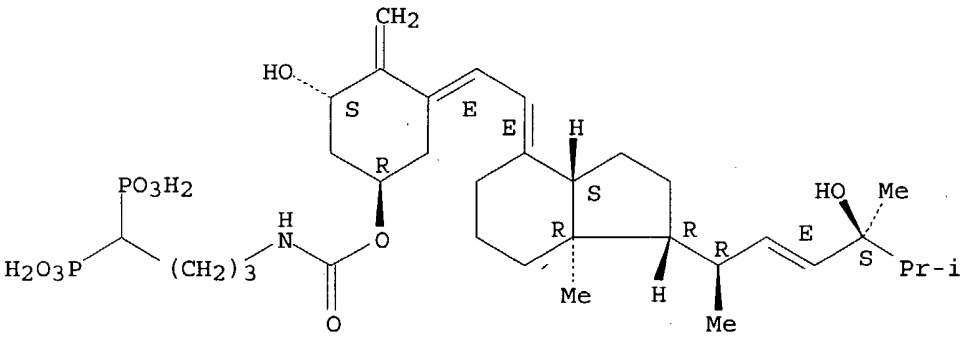


PAGE 1-B



RN 211866-04-5 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)

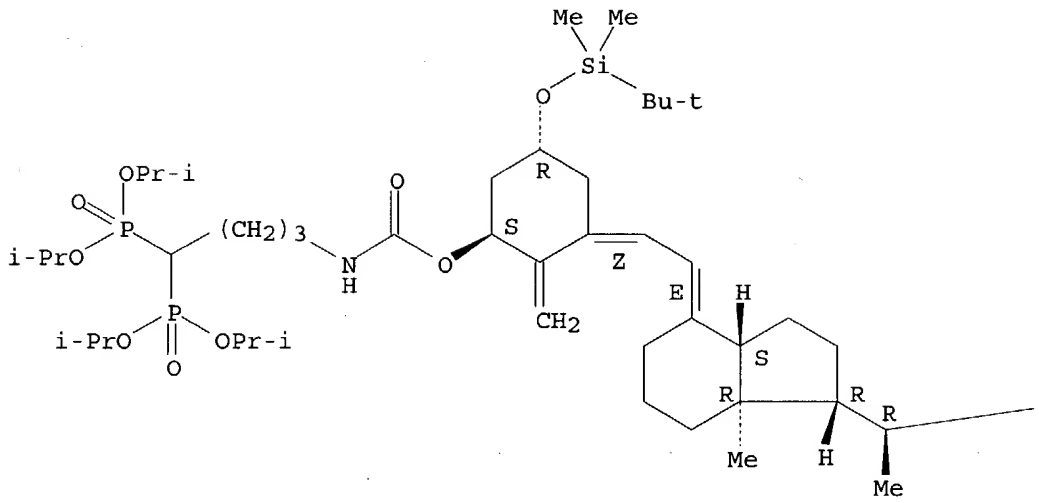
Absolute stereochemistry.
Double bond geometry as shown.



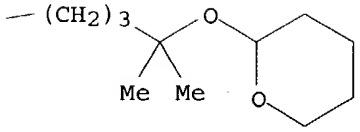
RN 211866-12-5 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-1-ol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



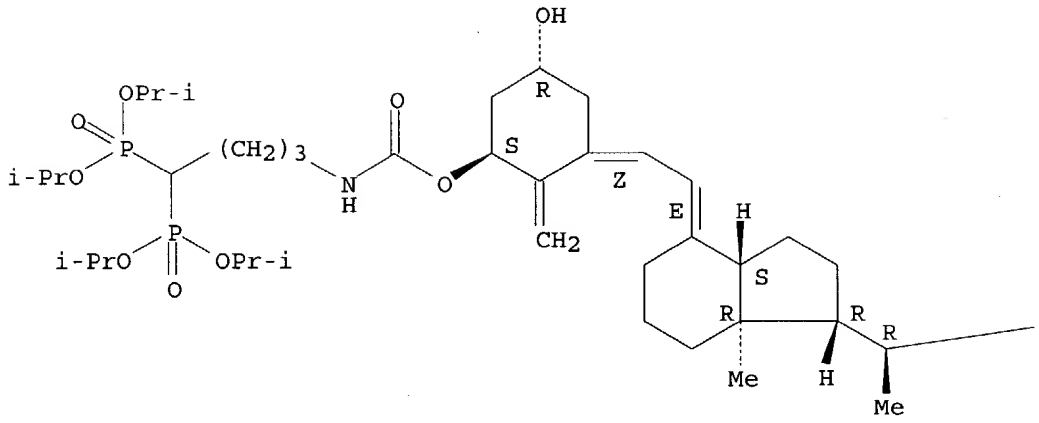
PAGE 1-B



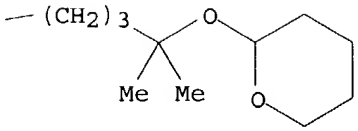
RN 211866-13-6 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, 1-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

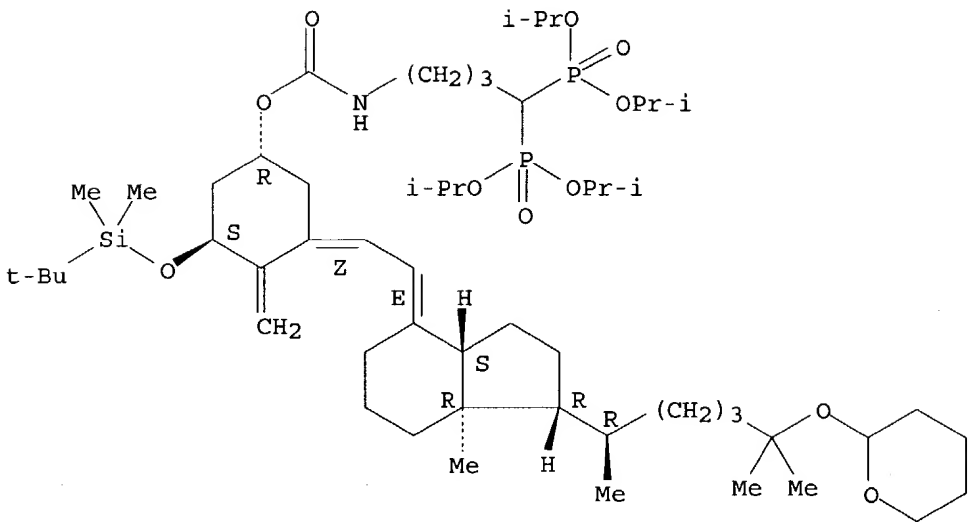


PAGE 1-B



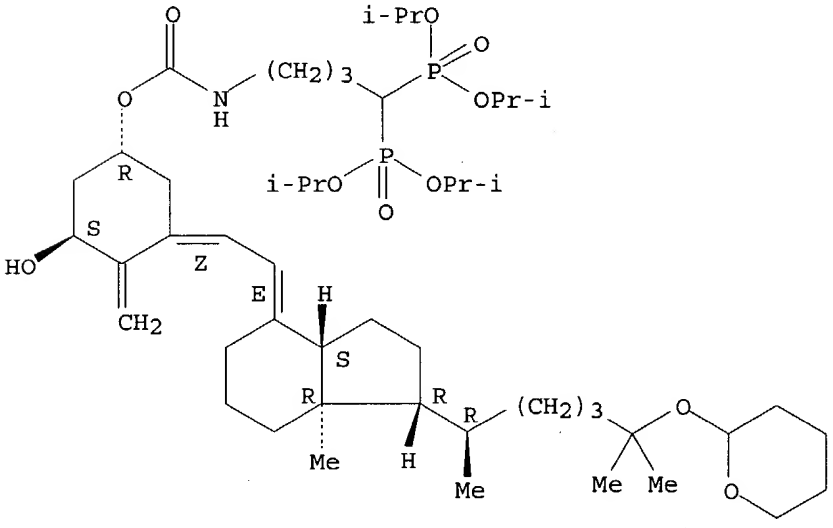
RN 211866-16-9 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, 1-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-[(tetrahydro-2H-pyran-2-yl)oxy]-, [4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-17-0 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, 25-[(tetrahydro-2H-pyran-2-yl)oxy]-, 3-[[4,4-bis[bis(1-methylethoxy)phosphinyl]butyl]carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-20-5 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-trien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, [2,2-bis[bis(1-methylethoxy)phosphinyl]ethyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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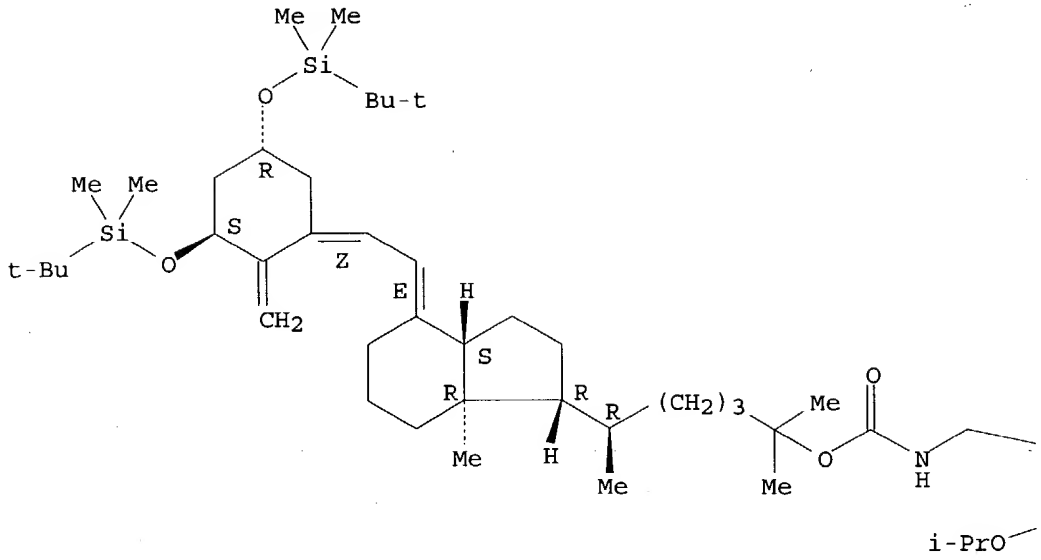
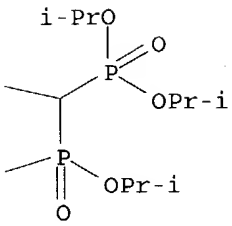


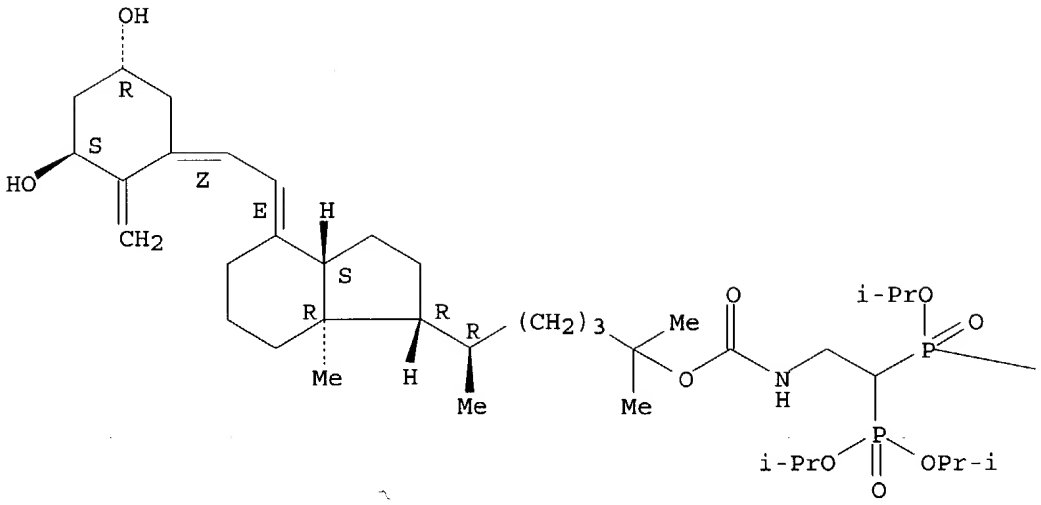
PAGE 1-B



RN 211866-21-6 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[2,2-bis[bis(1-methylethoxy)phosphinyl]ethyl]carbamate, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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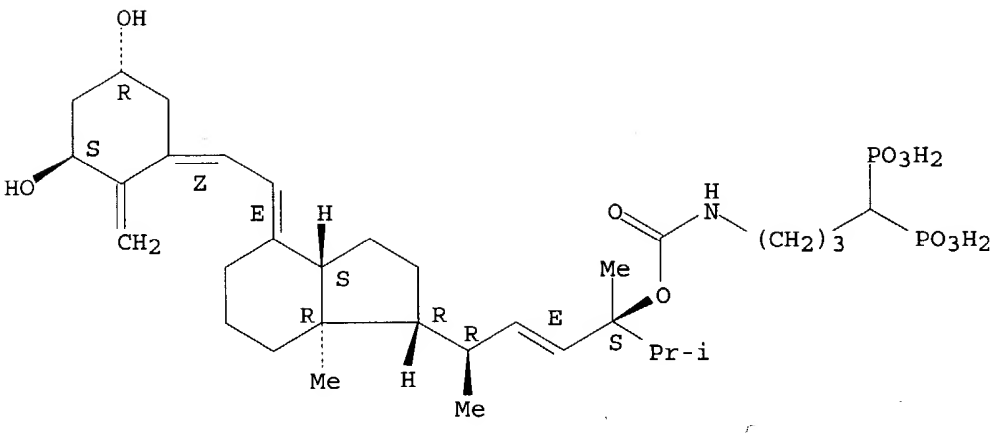
—OPr-i

IT **211865-91-7P 211866-00-1P 211866-05-6P**
211866-14-7P 211866-18-1P 211866-22-7P
(preparation of vitamin D2 analog-bisphosphonate conjugates for targeted delivery)

RN 211865-91-7 USPATFULL

CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 24-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-00-1 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

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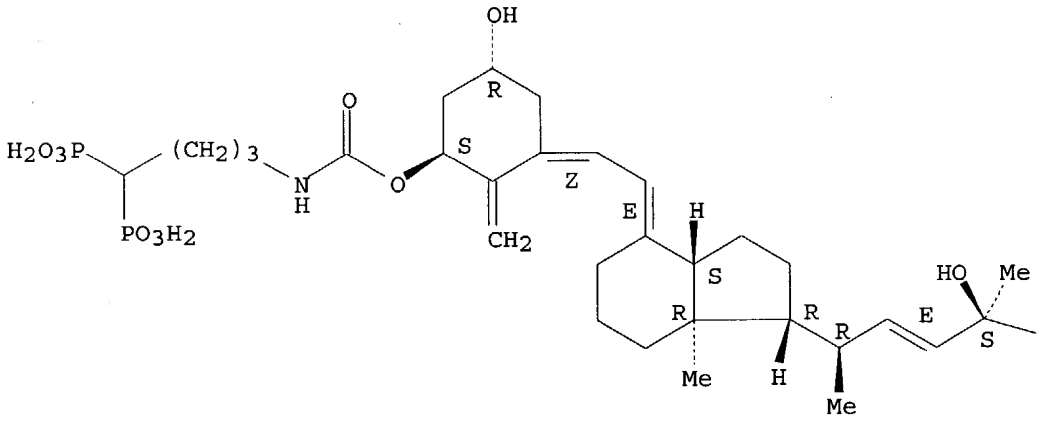
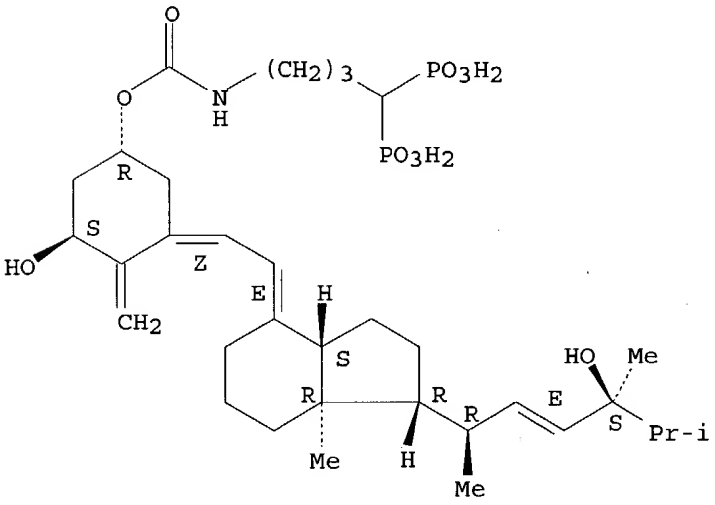


PAGE 1-B

Pr-i

RN 211866-05-6 USPATFULL
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)

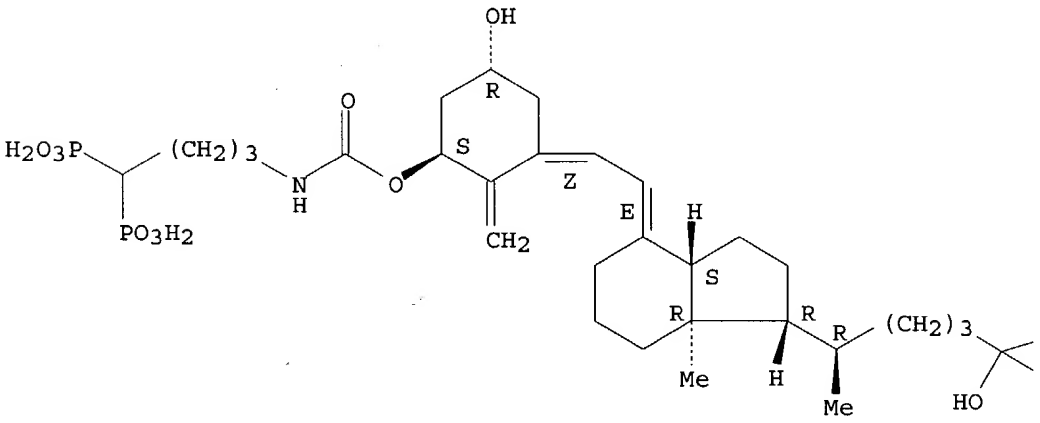
Absolute stereochemistry.
Double bond geometry as shown.



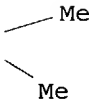
RN 211866-14-7 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 1-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

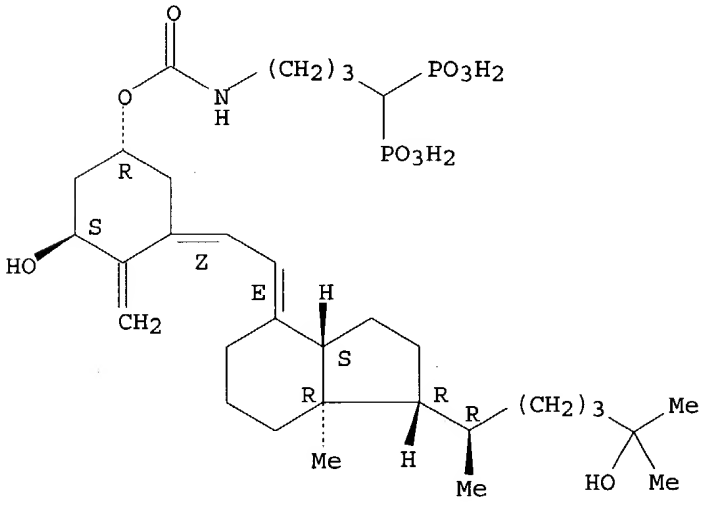


PAGE 1-B



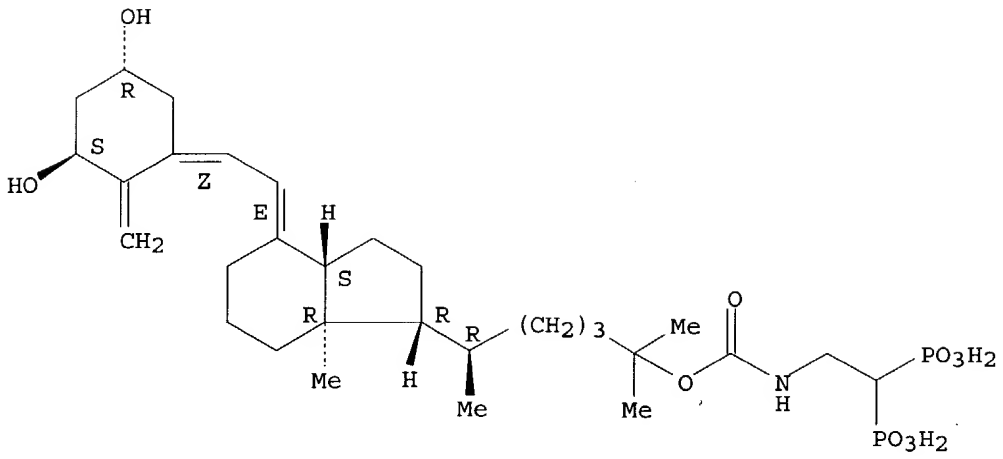
RN 211866-18-1 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 3-[(4,4-diphosphonobutyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 211866-22-7 USPATFULL
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 25-[(2,2-diphosphonoethyl)carbamate], (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



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               ACT NEON402/A
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L1             STR
L2          8939 SEA FILE=REGISTRY SSS FUL L1
              ---------
L3             STR
L4            46 S L3
L5          4726 S L3 FUL
               SAV L5 NEON402B/A

     FILE 'HCAPLUS' ENTERED AT 10:23:42 ON 16 NOV 2004
L6           101 S L2 AND L5
L7            20 S L6 AND (PD<=19970213 OR PRD<=19970213 OR AD<=19970213)
L8             3 S L7 AND (MAZESS ? OR BISHOP ?)/AU
L9             3 S L7 AND (BONE(L)CARE?)/PA,CS
L10            3 S L8,L9
                 SEL HIT RN

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L11           64 S E1-E64
L12            4 S L11 NOT L2
L13           28 S L11 AND L5
L14           24 S L13 NOT L12
L15           36 S L11 NOT L12-L14
L16            0 S L15 AND (P AND N)/ELS

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L19            3 S L18 AND (P AND N)/ELS
L20            2 S L19 NOT CO/ELS
L21            6 S L12,L20
                 SEL RN
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L22          115 S E163-E168/CRN
L23            0 S L22 AND L2

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L24         2059 S L21 OR L22
L25         7056 S RISEDRONIC ACID OR RISEDRONATE OR ME58019 OR NE()(58019 OR 58
L26          504 S ZOLEDRONATE OR ZOLEDRONIC ACID OR ZOMETA OR CGP42446 OR CGP()
L27         8028 S L24-L26
L28          111 S L27 AND L2
L29           22 S L28 AND (PD<=19970213 OR PRD<=19970213 OR AD<=19970213)
L30            3 S L10 AND L29
L31           23 S L7,L29 NOT L30
                 SEL DN AN 4 15-19
L32            6 S L31 AND E169-E186
L33           23 S L31,L32

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L35         7500 S L27
L36         1410 S L2
L37           60 S L35 AND L36
L38            9 S L37 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)
L39            7 S L38 NOT HYDROXYLASE/TI
L40            6 S L39 NOT P450/TI

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